



NUSC Technical Report 5681



Noise Measurements Taken in Connecticut During 1976

Peter R. Bannister Submarine Electromagnetic Systems Department

5 August 1977



NUSC

NAVAL UNDERWATER SYSTEMS CENTER
Newport,Rhode Island • New London,Connecticut

Approved for public release; distribution unlimited

AD NO.

DDC FILE COPY

PREFACE

The work described in this report was performed under NUSC Project No. A-590-07, "Project SEAFARER ELF Propagation Studies" (U), Principal Investigator, P. R. Bannister (Code 341); Navy Program Element No. 11401 and Project No. X0792, Naval Electronic Systems Command, Special Communications Project Office, CAPT C. D. Pollak (Code PME-117) Program Manager, ELF Communications Division, Dr. B. Kruger (Code PME-117-21), Director

The Technical Reviewer for this report was R. F. Ingram (Code 341).

REVIEWED AND APPROVED: 5 August 1977

John Merrill

Head: Submarine Electromagnetic Systems Department

The author of this report is located at the New London Laboratory, Naval Underwater Systems Center, New London, Connecticut 06320.

READ INSTRUCTIONS REPORT DOCUMENTATION PAGE BEFORE COMPLETING FORM REPORT NUMBER 2. GOVT ACCESSION NO. 3. RECIPIENT'S CATALOG NUMBER TR 5681 TITLE (and Subtitle) TYPE OF REPORT & PERIOD COVERED ELE EFFECTIVE NOISE MEASUREMENTS hnical rest. TAKEN IN CONNECTICUT DURING 1976 . S. PERFORMING ORG. REPORT NUMBER AUTHOR(.) S. CONTRACT OR GRANT NUMBER(A) Peter R. /Bannister 9. PERFORMING ORGANIZATION NAME AND ADDRESS PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS Naval Underwater Systems Center New London Laboratory A-590-07 New London, Connecticut 06320 11. CONTROLLING OFFICE NAME AND ADDRESS 12. REPORT DATE Naval Electronics Systems Command 5 August 1977 Special Communications Project Office 13. NUMBER OF PAGES Washington, DC 20360 26 14. MONITORING AGENCY NAME & ADDRESS(II dillerent from Controlling Office) 15. SECURITY CLASS. (of this report) UNCLASSIFIED 15a. DECLASSIFICATION DOWNGRADING 16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited. 17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, If different from Report) 18. SUPPLEMENTARY NOTES 19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Extremely Low Frequency (ELF) Atmospheric Noise Extremely Low Frequency (ELF) Band Extremely Low Frequency (ELF) Effective Noise Levels 20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Starting in August 1976, 76 Hz effective noise measurements have been taken in Connecticut. Based upon these measurements, it appears that there are definite mid-latitude seasonal and diurnal variations in extremely low frequency (ELF) effective noise levels. A comparison of the Connecticut data with that taken in Norway indicates that ELF effective noise is also latitude dependent.

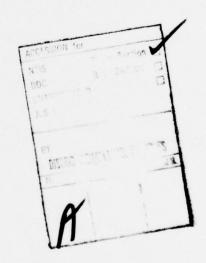
DD , FORM 1473

405 918

LB

TABLE OF CONTENTS

																										I	Page
LIST OF ILL	US'	ΓRA	AT:	IO	NS																						ii
LIST OF TAB	LE	S			•				•				•	•							•			•			iii
INTRODUCTIO	N				•																						1
76 Hz CONNE	CT	ICU	JT	E	FF	EC.	ΓI	VE	NO	018	SE	MI	EAS	SUE	REM	MEI	T	5		•							2
DISCUSSION								•									•		•								13
CONCLUSIONS									٠										•		•						13
REFERENCES													*														15



LIST OF ILLUSTRATIONS

Figure		Page
1	August 1976 Connecticut 76 Hz Average Effective Noise Levels Versus GMT	16
2	Average of Four Highest August 1976 Connecticut 76 Hz Effective Noise Days Versus GMT	16
3	15-16 July 1976 Connecticut 76 Hz Effective Noise Levels Versus GMT	17
4	September 1976 Connecticut 76 Hz Average Effective Noise Levels Versus GMT	18
5	26 September 1976 Connecticut 76 Hz Effective Noise Levels Versus GMT	19
6	October 1976 Connecticut 76 Hz Average Effective Noise Levels Versus GMT	20
7	14 October 1976 Connecticut 76 Hz Effective Noise Levels Versus GMT	20
8	9-10 October 1976 Connecticut 76 Hz Effective Noise Levels Versus CMT	21
9	November 1976 Connecticut 76 Hz Average Effective Noise Levels Versus GMT	22
10	Fall 1976 Connecticut 76 Hz Average Effective Noise Levels Versus GMT	22
11	17-27 January 1977 Connecticut 76 Hz Average Effective Noise Levels Versus CMT	22

LIST OF TABLES

Table			F	age
1	August 1976 Connecticut 76 Hz Effective Noise Levels (dBH) .			3
2	September 1976 Connecticut 76 Hz Effective Noise Levels (dBH)			7
3	October 1976 Connecticut 76 Hz Effective Noise Levels (dBH)			9
4	November 1976 Connecticut 76 Hz Effective Noise Levels (dBH)			11

ELF EFFECTIVE NOISE MEASUREMENTS TAKEN IN CONNECTICUT DURING 1976

INTRODUCTION

Under most operating conditions in the extremely low frequency (ELF) band, atmospheric noise is the limiting factor in receiver performance. The dominant source of atmospheric noise is attributed to radiation induced by lightning. Because of the low attenuation rate of ELF radio waves, which makes long range communications possible in this band, noise characteristics are affected not only by local thunderstorms but also by storms megameters away. Local thunderstorms tend to produce large spikes, while distant storms produce a background noise with occasional spikes.

Because of the wide variation in world-wide thunderstorm activity, one would expect the characteristics of ELF atmospheric noise to vary considerably in different parts of the world. However, world-wide measurements indicate a similar "spikiness" in all the observed data. Even in relatively "quiet" parts of the world, spikes attributed to individual lightning flashes are evident, making the noise process distinctly non-Gaussian. 1

The non-Gaussian nature of the atmospheric noise has an important effect on receiver design and on system performance. With Gaussian noise, the optimum receiver is a linear processor whose performance can be determined by measuring the atmospheric noise spectra. However, with non-Gaussian noise, the performance with a linear processor can be much worse than is suggested by the noise spectra. Furthermore, with an appropriate (nonlinear) processor, the performance can be much better than in Gaussian noise of the same spectral level. 1

To optimize a communications receiver for operation in a non-Gaussian noise environment, it is advisable to place a controlled nonlinearity in the receiver at a stage of wide signal-plus-noise bandwidth to remove the high amplitude spikes. Evans and Griffiths conducted experiments with recorded ELF noise in an attempt to design and evaluate operationally feasible approximations to the optimum nonlinearity. They concluded that a simple clipper, adjusted adaptively to clip between 10 and 40 percent of the time, provides near optimum performance.

By comparing the 1 percent exceedance level (i.e., the amplitude exceeded by fewer than 1 percent of the samples) atmospheric noise data from periods when local thunderstorms were known to be absent with those taken when thunderstorms were present, Ginsberg² suggested that a 10 dB improvement in signal to noise ratio (SNR) could be attained by employing the nonlinear noise processing schemes proposed by Evans and Griffiths. 1

Recent effective noise measurements* have been made in Norway, Greece, and Saipan.^{3,4} These measurements indicated that at least a 10 dB improvement could be obtained by employing nonlinear noise processing techniques.

^{*}The effective noise spectrum level, $N_{\rm eff}$, is defined as the spectrum level of ELF noise at the signal frequency, $N_{\rm o}$, divided by the improvement, in SNR, using nonlinear processing.

In this report, we will discuss the results of 76 Hz effective noise measurements taken in Connecticut during the summer and fall of 1976.

76 Hz CONNECTICUT EFFECTIVE NOISE MEASUREMENTS

For the Connecticut measurements, the SEAFARER* ELF receiver (AN/BSR-1) is located at NUSC, New London, Connecticut. The loop receiving antenna is located at Fishers Island, New York (about 6.2 miles (10 km) from New London). The receiver and receiving antenna are connected via a microwave link from Fishers Island to NUSC/NL. The receiving antenna is located approximately 170 ft (50 m) from a NUSC building at Fishers Island, which houses the ELF preamplifier and associated circuitry.

Daily 76 Hz field strength and effective noise measurements have been taken in Connecticut (via the Fishers Island microwave link) since August 1976. The main purpose of these measurements is to further investigate sunrise, daytime, sunset, nighttime, and seasonal ELF propagation variations. A secondary purpose is to establish a midlatitude effective noise data base. The results of the 76 Hz effective noise measurements will be discussed here; the field strength measurement results will be discussed in a separate report.

Plotted in figure 1 are the August 1976 Connecticut 76 Hz average effective noise levels versus Greenwich Mean Time (GMT); the individual daily 30 minute samples are listed in table 1. Altogether, 16 days of data were obtained. The average diurnal variation was 6 dB (-130 to -136 dBH †), with the minimum occurring around local sunrise and the maximum occurring 1 to 2 hours before local sunset.

Plotted in figure 2 are the 76 Hz average effective noise levels for the four highest $N_{\rm eff}$ days in August (13-15 and 26 August) versus GMT. Note that the minimum values were about the same as the monthly average, whereas the maximum values were approximately 5 dB higher than the monthly average (see figure 1).

The 76 Hz effective noise levels measured during 15-16 July versus GMT are plotted in figure 3. Here we see that the diurnal variation is ~ 17 dB, which is the second largest diurnal variation measured to date in Connecticut! The peak level (~ -124 dBH) was about the same as was measured during the four highest days in August (figure 2); the minimum level (~ -141 dBH) was ~ 5 dB lower than the average August minimum level (figure 1) and also lower than any 20 minute sample measured during the whole 16 days in August (see table 1).

^{*}SEAFARER (formerly called SANGUINE) is an arbitrary designation applied to ongoing ELF research by the U.S. Navy. The term designates work directed toward the implementation of an ELF shore-to-ship radio communication system.

[†]dBH = dB relative to 1 A/m $\cdot \sqrt{\text{Hz}}$.

Table 1. August 1976 Connecticut 76 Hz Effective Noise Levels (dBH)

GMT'	8/4		8/6	8/19	8/15	8/16	8/17	8/18	8/20	8/21	8/22	8/23	8/24	8/25
	-135.8	-131.7	-128.1	-126.8	-127.7	-129.9								
	-134.8	-132.7	-129.9	-127.2	-178.6		-132.4	-133.8	-131.0	-133.7	-135.0	-133.4	-132.1	-130.8
	-135.0	-133.5	+130.9	-128.4	-130.0	-132.1	-133.0	-133.6	-130.2	-134.4	-136.0	-132.6	-133.6	-131.8
	-135.5	-133.1	-132.5	-129.2	-130.1	-131.8	-133.1	-134.6	-130.6	-134.3	-135.9	-134.1	-133.5	-132.7
	-136.1	-132.6	-134.1	-129.4	-130.5	-130.5	-132.4	-135.3	-130.2	-133.9	-136.2	-134.5	-134.3	-133.8
	-136.6	-133.0	-134.3	-129.8	-130.0	-137.7	-133.6	-135.5	-131.0	-134.6	-137.6	-135.1	-135.1	-133.4
	-137.2	-134.3	-134.0	-128.8	-130.8	-132.0	-134.5	-136.9	-132.4	-133.9	-135.7	-136.9	-135.0	-133.5
0330	-137.6	-135.1	-134.2	-129.9	-131.2	-132.9	-134.6	-136.6	-133.6	-135.6	-138.1	-136.6	-135.4	-134.5
0400	-137.8	-135.4	-135.3	-130.8	-130.8	-133.7 -134.4	-134.6	-137.1	-134.7	-136.7	-137.8	-136.5	-134.4	+134.4
0430	-138.0	-135.5	-135.4	-131.7	-129.7	-130.0	-134.8	-136.9	-130:0	-136.5	-138.3	-135.9	-135.4	-134.9
	-138.4	-135.8	-135.4	-131.5	-130.2	-133.9	-135.1	-137.3	-134.9	-137.5	-138.6	-137.2	-134.9	-135.1
	-137.1	-135.9	-136.7	-131.0	-129.6	-130.0	-135.6 -134.0	-137.7	-134.6	-136.8	-139.0	-138.1	-135.6	-135.0
0600	-137.2	-135.4	-137.5	-132.1	-178.8	-134.8		-137.2	-135.0	-137.3	-140.2	-136.7	-135.3	-135.5
0630	-137.6	-1.35.4	-137.2	-132.5	-128.3	-134.2	-134.4 -135.2	-137.9	-133.8	-136.8	-138.7	-137.7	-136.0	-135.6
	-138.1	-134.3	-137.1	-133.1	-127.6	-134.5		-137.0	-132.3	-137.1	-139.8	-136.0	-135.9	-136.5
	-138.0	-134.3	-136.3	-132.7	-177.7	-134.5	-134.7	-136.5	-132.7	-136.7	-138.2	-137.7	-135.0	-136.8
	-139.1	-135.1	-135.6	-132.3			-136.1	-136.6	-132.3	-136.4	-138.6	-136.9	-135.9	-136.5
0830	-139.5	-135.7	-136.1	-132.7		-130.4 -130.9	-137.3	-136.0	-131.8	-136.3	-138.2	-137.7	-136.0	-137.2
0900	-139.6	-135.5	-136.3	-137.9			-137.3	-137.1	-132.4	-136.7	-138.7	-136.6	-135.4	-137.4
0930	-139.7	-135.9	136.0	-132.8		-134.7	-136.2	-136.6	-133.3	-136.3	-138.0	-137.8	-133.5	-136.6
	-139.7	-135.9	-136.6	-132.7		-139.9	136.6	137.4	-133.4	136.6	-138.0	136.4	-133.4	-137.3
1030	-137.8	-135.3	-136.1	-172.8		-133.6	-135.4	-136.3	-133.8	-135.6	-137.7	-136.6		-136.3
1100	-136.5	-133.7	-133.6	-131.9		-133.5	-134.3	-136.7	-133.4	-135.9	-136.8	-137.2		-135.2
		-132.8	-136.2		1705 0	-133.7	-134.0	-137.3	-133.7	-135.7	-137.6	-136.4		-135.7
			- 1 Jel • 10	-132.4	-134.0	-134.2	-132.7	-136.8		-136.7	-136.5	-136.7		-135.6
GMT	8/3	8/9	8/5	8/13	8/19	8/15	8/17	8/18	8/19	8/20	8/21	8/22	8/23	8/24
		8/9			8/19	8/15 -139.2	8/17 -134.0	8/18 -136.3	8/19	8/20 -132.8	8/21 -135.2	8/22	8/23	8/24
1200		-136.4		8/13										
1200 1230	_	-136.4 -137.7			-133.3	-13/1.2	-134.0 -133.8	-136.3	8/19	-132.8	-135.2	-136.4	-135.4	8/24
1200 1230 1300	_	-136.4		=	-133.3 -133.1	-130.2 -130.8	-134.0	-136.3 -135.7		-132.8 -130.6	-135.2 -136.5	-136.4 -136.3	-135.4 -135.7	
1200 1230 1300 1330	_	-1 (6.4 -1 (7.7 -1 38.6)	=	-134.2	-133.3 -133.1 -133.8	-13%.2 -13%.8 -13%.8	-134.0 -133.8 -133.3	-136.3 -135.7 -134.3		-132.8 -130.6 -133.8	-135.2 -136.5 -135.3	-136.4 -136.3 -136.4	-135.4 -135.7 -134.5	\equiv
1200 1230 1300 1330 1400	_	-136.4 -137.7 -138.6 -137.2	-137.5	-130.2 -135.1	-133.3 -133.1 -133.8 -139.3	-134.2 -134.8 -134.8 -134.0	-134.0 -133.8 -133.3 -133.9	-136.3 -135.7 -139.3 -135.9		-132.8 -130.6 -133.8 -134.3	-135.2 -136.5 -135.3 -137.0	-136.4 -136.3 -136.4 -137.0	-135.4 -135.7 -134.5 -135.4	-130,8
1200 1230 1300 1330 1400 1430	_	-136.9 -137.7 -138.0 -137.2 -138.9	-137.5 -136.7	-134.2 -135.1 -135.2	-133.3 -133.1 -133.8 -134.3 -133.7	-134.2 -134.8 -134.8 -134.0 -134.1	-134.0 -133.8 -133.3 -133.9 -132.7	-136.3 -135.7 -134.3 -135.9 -136.9	\equiv	-132.8 -130.6 -133.8 -134.3 -134.6	-135.2 -136.5 -135.3 -137.0 -135.5	-136.4 -136.3 -136.4 -137.0 -136.8	-135.4 -135.7 -134.5 -135.4 -135.4	-130.8 -129.9
1200 1230 1300 1330 1400 1430 1500	_	-136.4 -137.7 -138.0 -137.2 -138.4 -137.6	-137.5 -136.7 -136.9	-139.2 -135.1 -135.2 -139.8	-133.3 -133.1 -133.8 -134.3 -133.7 -139.4	-13%.2 -13%.8 -13%.8 -13%.0 -13%.1 -133.7	-134.0 -133.8 -133.3 -133.9 -132.7 -134.2	-136.3 -135.7 -134.3 -135.9 -136.9 -135.1	-134.9	-132.8 -130.6 -133.8 -134.3 -134.6 -135.3	-135.2 -136.5 -135.3 -137.0 -135.5 -135.1	-136.4 -136.3 -136.4 -137.0 -136.8 -136.5	-135.4 -135.7 -134.5 -135.4 -135.4 -136.0	-130.8 -129.9 -130.8
1200 1230 1300 1330 1400 1430		-1 36 . 9 -1 37 . 7 -1 38 . 0 -1 37 . 2 -1 38 . 9 -1 37 . 6 -1 36 . 8	-137.5 -136.7 -136.9 -137.2	-134.2 -135.1 -135.2 -134.8 -133.6	-133,3 -133,1 -133,8 -134,3 -133,7 -134,4 -133,4	-139.2 -139.8 -139.8 -139.0 -139.1 -133.7 -133.2	-134.0 -133.8 -133.3 -133.9 -132.7 -134.0	-136.3 -135.7 -139.3 -135.9 -136.9 -135.1 -132.1	-134.9 -135.9	-132.8 -130.6 -133.8 -134.3 -134.6 -135.3 -135.1	-135.2 -136.5 -135.3 -137.0 -136.5 -135.1 -135.7	-136.4 -136.3 -136.4 -137.0 -136.8 -136.5 -134.6	-135.4 -135.7 -134.5 -135.4 -135.4 -136.0 -135.7	-130.8 -129.9 -130.8 -132.5
1200 1230 1300 1330 1400 1430 1500 1530 1600		-1 36.4 -1 37.7 -1 38.0 -1 37.2 -1 38.4 -1 37.6 -1 36.8 -1 37.0	-137.5 -136.7 -136.9 -137.2 -136.6	-134.2 -135.1 -135.2 -134.8 -133.6 -133.7	-133.3 -133.1 -133.8 -136.3 -133.7 -136.6 -133.6 -133.2	-13%.2 -13%.8 -13%.8 -13%.0 -13%.1 -133.7 -133.2 -133.7	-134.0 -133.8 -133.3 -133.9 -132.7 -134.2 -134.0 -134.6	-136.3 -135.7 -134.3 -135.9 -136.9 -135.1 -132.1 -134.9	-134.9 -135.9 -136.7	-132.8 -130.6 -133.8 -134.3 -134.6 -135.3 -135.1 -134.4	-135.2 -136.5 -135.3 -137.0 -136.5 -135.1 -135.7 -135.0	-136.4 -136.3 -136.4 -137.0 -136.8 -136.5 -134.6 -136.2	-135.4 -135.7 -134.5 -135.4 -135.4 -136.0 -135.7 -137.1	-130.8 -129.9 -130.8 -132.5 -133.4
1200 1230 1300 1330 1400 1430 1500 1530 1600 1630		-136.4 -137.7 -138.0 -137.2 -138.4 -137.6 -136.8 -137.0 -136.6	-137.5 -136.7 -136.9 -137.2 -136.4 -137.0	-134.2 -135.1 -135.2 -134.8 -133.6 -133.7 -134.5	-133.3 -133.1 -133.8 -139.3 -133.7 -139.4 -133.9 -133.2 -139.1	-130.2 -130.8 -130.8 -130.0 -130.1 -133.7 -133.2 -133.7 -132.8	-134.0 -133.8 -133.3 -133.9 -132.7 -134.2 -134.6 -135.4	-136.3 -135.7 -134.3 -135.9 -136.9 -135.1 -132.1 -134.9 -133.1	-134.9 -135.9 -136.7 -135.7	-132.8 -130.6 -133.8 -134.3 -134.6 -135.3 -135.1 -134.4 -135.0	-135.2 -136.5 -135.3 -137.0 -136.5 -135.1 -135.7 -135.0 -136.1	-136.4 -136.3 -136.4 -137.0 -136.8 -136.5 -134.6 -136.2 -136.3	-135.4 -135.7 -134.5 -135.4 -136.0 -135.7 -137.1 -136.9	-130.8 -129.9 -130.8 -132.5 -133.4 -134.4
1200 1230 1300 1330 1400 1430 1500 1530 1600 1630 1700		-136.4 -137.7 -138.0 -137.2 -138.4 -137.6 -136.8 -137.0 -136.6 -136.8	-137.5 -136.7 -136.9 -137.2 -136.4 -137.0 -135.8	-139.2 -135.1 -135.2 -134.8 -133.6 -133.7 -139.5 -139.5	-133.3 -133.1 -133.8 -139.3 -133.7 -139.4 -133.9 -139.1 -133.2	-130.2 -130.8 -130.8 -130.0 -130.1 -133.7 -133.2 -133.7 -132.8 -131.9	-134.0 -133.8 -133.3 -133.9 -132.7 -134.0 -134.6 -135.4 -135.5	-136.3 -135.7 -134.3 -135.9 -136.9 -135.1 -132.1 -134.9 -133.1 -135.5	-134.9 -135.9 -136.7 -135.7 -136.6	-132.8 -130.6 -133.8 -134.3 -135.3 -135.1 -134.4 -135.0 -135.6	-135.2 -136.5 -135.3 -137.0 -135.5 -135.1 -135.7 -135.0 -136.1 -136.0	-136.4 -136.3 -136.4 -137.0 -136.8 -136.5 -134.6 -136.2 -136.3 -136.3	-135.4 -135.7 -134.5 -135.4 -135.4 -135.7 -137.1 -136.9 -137.1	-130.8 -129.9 -130.8 -132.5 -133.4 -134.4 -134.6
1200 1230 1300 1330 1400 1430 1500 1530 1600 1630 1700 1730	-130.9	-136.4 -137.7 -138.0 -137.2 -138.4 -137.6 -136.8 -137.0 -136.6 -136.8 -137.6	-137.5 -136.7 -136.9 -137.2 -136.9 -137.0 -137.0	-139.2 -135.1 -135.2 -134.8 -133.6 -133.7 -139.5 -139.2 -132.2	-133.3 -133.1 -133.8 -139.3 -139.9 -133.6 -133.6 -133.2 -139.1	-134.2 -134.8 -134.8 -134.1 -133.7 -133.2 -133.7 -131.8	-134.0 -133.8 -133.3 -133.9 -132.7 -134.0 -134.6 -135.4 -135.5 -135.5	-136.3 -135.7 -134.3 -135.9 -136.9 -135.1 -132.1 -134.9 -133.1 -134.9	-134.9 -135.9 -136.7 -136.6 -136.1	-132.8 -130.6 -133.8 -134.3 -134.6 -135.3 -135.1 -134.4 -135.0 -135.6 -135.6	-135.2 -136.5 -135.3 -137.0 -135.5 -135.1 -135.7 -136.0 -136.0 -135.5	-136.4 -136.3 -136.4 -137.0 -136.8 -136.5 -134.6 -136.2 -136.3 -136.3	-135.4 -135.7 -134.5 -135.4 -136.0 -135.7 -137.1 -136.9 -137.1 -137.3	-130.8 -129.9 -130.8 -132.5 -133.4 -134.6 -135.0
1200 1230 1300 1330 1400 1430 1500 1530 1600 1630 1700	-+ 3h , 3 -+ 3h , b	-136.0 -137.7 -138.0 -137.2 -138.0 -137.6 -136.8 -137.0 -136.8 -137.6 -137.6 -137.6	-137.5 -136.7 -136.9 -137.2 -136.6 -137.0 -135.8 -137.0 -137.0	-134.2 -135.1 -135.2 -134.8 -133.6 -133.7 -134.5 -134.2 -132.2 -129.6	-133.3 -133.1 -133.8 -134.3 -133.7 -134.4 -133.6 -133.2 -134.1 -133.2 -134.3	-13h.2 -13h.8 -13h.8 -13h.1 -13h.1 -133.7 -133.7 -132.8 -131.9 -131.8 -130.1	-134.0 -133.8 -133.3 -133.9 -132.7 -134.0 -134.6 -135.4 -135.5 -135.5	-136.3 -135.7 -134.3 -135.9 -136.9 -135.1 -132.1 -134.9 -133.1 -135.5 -134.1 -139.8	-134.9 -135.9 -136.7 -136.6 -136.1 -135.6	-132.8 -130.6 -133.8 -134.3 -134.6 -135.3 -135.1 -134.4 -135.6 -135.6 -135.6	-135.2 -136.5 -135.3 -137.0 -136.5 -135.1 -135.7 -136.0 -136.1 -136.0 -135.5 -135.9	-136.4 -136.3 -136.4 -137.0 -136.8 -136.5 -134.6 -136.2 -136.3 -136.3 -136.3	-135.4 -135.7 -135.4 -135.4 -136.0 -135.7 -137.1 -136.9 -137.1 -137.3 -137.3	-130.8 -179.9 -130.8 -132.5 -133.4 -134.6 -135.0 -133.3
1200 1230 1300 1300 1400 1430 1500 1530 1600 1630 1700 1730 1800 1830	-130.9 -136.6 -136.2	-136.4 -137.7 -138.0 -137.2 -138.4 -137.6 -136.8 -137.0 -136.6 -137.6 -137.6	-137.5 -136.7 -136.7 -136.6 -137.0 -135.8 -137.0 -135.2	-130.2 -135.1 -135.2 -130.8 -133.7 -130.5 -130.2 -132.2 -129.6 -128.3	-133.3 -133.1 -133.8 -139.3 -139.7 -139.4 -133.2 -139.1 -133.2 -139.1 -133.2 -139.5	-134.2 -134.8 -134.0 -134.1 -133.7 -133.7 -132.8 -131.9 -131.8 -130.1 -128.8	-134.0 -133.8 -133.3 -133.9 -132.7 -134.0 -134.6 -135.4 -135.5 -135.5 -133.7 -134.9	-136.3 -135.7 -139.3 -135.9 -136.9 -135.1 -132.1 -134.9 -133.1 -135.5 -134.5 -134.5	-134.9 -135.9 -136.7 -136.6 -136.6 -135.6 -135.7	-132.8 -130.6 -133.8 -134.3 -134.6 -135.3 -135.1 -134.4 -135.0 -135.6 -136.1 -134.6	-135.2 -136.5 -135.3 -137.0 -135.5 -135.1 -135.7 -135.0 -136.1 -136.0 -135.5 -135.9	-136.4 -136.3 -136.4 -137.0 -136.8 -136.5 -134.6 -136.2 -136.3 -136.3 -136.3 -135.3	-135.4 -135.7 -134.5 -135.4 -136.0 -135.7 -137.1 -136.9 -137.1 -137.3 -136.4 -136.3	-130.8 -129.9 -130.8 -132.5 -133.4 -134.4 -134.6 -135.0 -133.3 -133.2
1200 1230 1300 1330 1400 1430 1500 1500 1600 1730 1800	-+36.7 -+36.5 -+136.7 -+36.0	-136.4 -137.7 -138.0 -137.2 -138.4 -137.6 -136.8 -137.0 -136.8 -137.6 -137.6 -137.6	-137.5 -136.7 -136.9 -137.2 -136.6 -137.0 -135.8 -137.0 -135.2 -133.7	-139.2 -135.1 -135.2 -139.8 -133.6 -133.7 -139.5 -139.2 -129.6 -128.3 -127.6	-133.3 -133.8 -139.3 -139.3 -139.4 -133.9 -133.2 -139.1 -133.2 -137.9 -133.2 -131.5 -129.4	-134.2 -134.8 -134.0 -134.1 -133.7 -133.7 -133.2 -131.9 -131.8 -130.1 -128.8 -128.4	-134.0 -133.8 -133.9 -132.7 -134.0 -134.6 -135.4 -135.5 -135.5 -134.9 -134.9	-136.3 -135.7 -139.3 -135.9 -136.9 -135.1 -132.1 -134.9 -133.1 -135.5 -134.1 -139.8 -132.6 -133.9	-134.9 -135.9 -136.7 -136.6 -136.1 -135.6 -135.7 -136.2	-132.8 -130.6 -133.8 -134.3 -134.6 -135.3 -135.1 -134.4 -135.0 -135.6 -136.1 -134.6 -134.7	-135.2 -136.5 -135.3 -137.0 -136.5 -135.1 -135.7 -135.0 -136.1 -136.0 -135.5 -135.9 135.2	-136.4 -136.3 -136.4 -137.0 -136.8 -136.5 -134.6 -136.2 -136.3 -136.0 -135.3 -135.3	-135.4 -135.7 -134.5 -135.4 -135.4 -136.0 -135.7 -137.1 -136.9 -137.1 -136.4 -136.4 -136.3	-130.8 -129.9 -130.8 -132.5 -133.4 -134.4 -135.0 -133.3 -133.2 -133.8
1200 1230 1300 1330 1430 1430 1500 1530 1600 1630 1700 1800 1830 1900	-+30, 9 -+36, 6 -+36, 0 -+36, 0 -+35, 0	-136,4 -137,7 -138,0 -137,2 -138,4 -137,6 -136,8 -137,0 -137,6 -137,6 -137,6 -137,0 -137,0 -136,0	-137.5 -136.7 -136.9 -137.2 -137.0 -137.0 -135.8 -137.0 -135.2 -133.7 -133.7	-130.2 -135.1 -135.2 -130.8 -133.6 -130.5 -130.2 -130.2 -129.6 -128.3 -127.6 -126.6	-133.3 -133.1 -133.8 -139.3 -139.7 -139.4 -133.2 -139.1 -133.2 -139.4 -129.0	-134.2 -134.8 -134.8 -134.1 -133.7 -133.7 -132.8 -131.9 -131.8 -130.1 -128.8 -128.4 -127.1	-134.0 -133.8 -133.9 -132.7 -134.0 -134.6 -135.4 -135.5 -135.5 -134.9 -134.9	-136.3 -135.7 -134.3 -135.9 -136.9 -135.1 -132.1 -134.9 -135.5 -134.1 -136.8 -132.6 -133.9 -133.5	-134.9 -135.9 -136.7 -135.7 -136.6 -136.1 -135.6 -135.7 -136.2	-132.8 -130.6 -133.8 -134.3 -134.6 -135.3 -135.1 -134.4 -135.6 -135.6 -136.6 -134.7	-135.2 -136.5 -135.3 -137.0 -135.5 -135.1 -135.0 -136.1 -136.0 -135.5 -135.5 -135.5 -135.9 -135.2 -135.7 -135.3 -134.5	-136.4 -136.3 -136.4 -137.0 -136.8 -136.5 -134.6 -136.3 -136.3 -136.0 -135.3 -136.0 -135.3 -134.6	-135.4 -135.7 -135.4 -135.4 -136.0 -135.7 -137.1 -136.9 -137.1 -136.4 -136.3 -134.2 -134.0	-130.8 -129.9 -130.8 -132.5 -133.4 -134.6 -135.0 -133.3 -133.2 -133.8 -133.5
1200 1230 1330 1400 1430 1500 1530 1600 1730 1800 1830 1930 1930	-130.9 -136.6 -136.0 -136.0 -135.0 -135.0	-136.4 -137.7 -138.0 -137.2 -138.4 -137.6 -136.8 -137.0 -136.8 -137.6 -137.6 -137.6 -137.6 -137.6 -137.6	-137.5 -136.7 -136.9 -137.2 -136.9 -137.0 -135.8 -137.0 -135.0 -137.0 -133.9 -139.9	-134.2 -135.1 -135.2 -134.8 -133.6 -134.5 -134.2 -139.2 -129.6 -128.3 -176.6 -126.2	-133.3 -133.1 -133.8 -139.3 -139.9 -133.6 -133.2 -139.1 -133.2 -131.5 -129.0 -129.0 -127.9	-134.2 -134.8 -134.0 -134.1 -133.7 -133.2 -133.7 -132.8 -131.9 -131.8 -130.1 -128.8 -128.4 -127.1 -128.8	-134.0 -133.8 -133.3 -133.9 -132.7 -134.0 -134.6 -135.4 -135.5 -135.5 -134.9 -134.9 -133.9 -133.8	-136.3 -135.7 -134.3 -135.9 -136.9 -135.1 -132.1 -134.9 -135.5 -134.1 -136.8 -132.6 -133.5 -134.0	-134.9 -135.9 -136.7 -135.7 -136.6 -136.1 -135.6 -135.7 -136.2	-132.8 -130.6 -133.8 -134.3 -134.6 -135.3 -135.1 -134.4 -135.6 -135.6 -136.1 -134.6	-135.2 -136.5 -135.3 -137.0 -136.5 -135.1 -135.7 -136.1 -136.0 -135.5 -135.9 135.2 -135.7 -135.3	-136.4 -136.3 -136.6 -137.0 -136.8 -136.5 -134.6 -136.3 -136.3 -136.3 -135.3 -135.3 -135.4 -134.6 -134.4	-135.4 -135.7 -135.4 -135.4 -136.0 -135.7 -137.1 -136.9 -137.1 -137.3 -136.4 -136.3 -134.0 -133.7	-130.8 -129.9 -130.8 -132.5 -133.4 -134.6 -135.0 -133.3 -133.2 -133.8 -133.5 -132.2
1200 1230 1330 1330 1400 1430 1500 1530 1600 1730 1800 1830 1900 1930 2000	-130,9 -136,6 -136,2 -136,0 -135,0 -135,2 -135,3	-136.4 -137.7 -138.0 -137.2 -138.4 -137.6 -136.8 -137.0 -136.6 -137.6 -137.6 -137.5 -137.0 -137.5 -137.5	-137.5 -136.7 -136.9 -137.2 -136.8 -137.0 -135.8 -137.0 -135.2 -133.7 -133.7 -133.9 -139.9	-139.2 -135.1 -135.2 -134.8 -133.7 -139.5 -139.2 -129.6 -128.3 -126.6 -126.2 -129.0	-133.3 -133.1 -133.8 -139.3 -139.4 -133.2 -139.1 -133.2 -139.1 -133.2 -131.5 -129.4 -129.0 -127.9 -128.1	-134.2 -134.8 -134.0 -134.1 -133.7 -133.7 -132.8 -131.9 -131.8 -128.8 -128.8 -128.8 -127.1	-134.0 -133.8 -133.3 -133.9 -132.7 -134.0 -134.6 -135.4 -135.5 -135.5 -135.5 -133.7 -134.9 -134.1 -133.9 -134.2	-136.3 -135.7 -134.3 -135.9 -136.9 -135.1 -132.1 -134.9 -133.1 -135.5 -134.1 -139.6 -133.9 -133.9 -133.9	-134.9 -135.9 -136.7 -136.6 -136.6 -135.6 -135.7 -136.2 -134.6	-132.8 -130.6 -133.8 -134.3 -134.6 -135.1 -134.4 -135.0 -135.6 -136.1 -134.6 -134.7	-135.2 -136.5 -135.3 -137.0 -135.5 -135.1 -135.0 -136.1 -136.0 -135.5 -135.5 -135.5 -135.9 -135.2 -135.7 -135.3 -134.5	-136.4 -136.3 -136.4 -137.0 -136.8 -136.5 -134.6 -136.3 -136.3 -136.3 -135.3 -135.2 -134.6 -134.4 -133.9	-135.4 -135.7 -134.5 -135.4 -136.0 -135.7 -137.1 -136.9 -137.1 -136.3 -136.4 -136.3 -134.2 -134.0	-130.8 -129.9 -130.8 -132.5 -133.4 -134.4 -134.6 -135.0 -133.3 -133.2 -133.8 -133.5 -132.2 -131.3
1200 1230 1300 1330 1400 1430 1530 1600 1630 1730 1800 1830 1930 2000 2030	-130, 9 -136, 6 -136, 2 -136, 0 -135, 0 -135, 3 -135, 3	-136.4 -137.7 -138.0 -137.2 -138.4 -137.6 -136.6 -137.0 -136.6 -137.6 -137.6 -137.6 -137.5 -137.0 -136.0	-137.5 -136.7 -136.9 -137.2 -136.6 -137.0 -135.8 -137.0 -135.2 -133.7 -133.9 -139.9 -132.2 -133.5	-139.2 -139.1 -135.2 -139.8 -133.6 -133.7 -139.5 -139.2 -129.6 -128.3 -127.6 -126.6 -126.6 -126.6 -129.9	-133.3 -133.1 -133.8 -139.3 -139.4 -133.7 -139.4 -133.2 -139.1 -133.2 -131.5 -129.4 -129.0 -127.9 -127.6	-134.2 -134.8 -134.0 -134.1 -133.7 -133.7 -132.8 -131.9 -131.8 -130.1 -128.8 -128.4 -127.1 -128.8 -127.6 -127.7	-134.0 -133.8 -133.9 -132.7 -134.0 -134.6 -135.4 -135.5 -135.5 -133.7 -134.9 -134.1 -133.9 -134.1 -133.9	-136.3 -135.7 -139.3 -136.9 -136.9 -135.1 -132.1 -134.9 -133.1 -135.5 -134.1 -139.8 -132.6 -133.9 -133.5 -134.1 -134.0	-134.9 -135.9 -136.7 -136.6 -136.6 -135.7 -136.2 -134.6 -134.5	-132.8 -130.6 -133.8 -134.3 -134.6 -135.3 -135.1 -134.4 -135.0 -135.6 -136.1 -134.6 -134.7	-135.2 -136.5 -135.3 -137.0 -136.5 -135.1 -135.0 -136.1 -136.0 -135.5 -135.9 -135.2 -135.7 -135.3 -134.5 -135.3	-136.4 -136.3 -136.4 -137.0 -136.8 -136.5 -134.6 -136.3 -136.3 -136.0 -135.3 -135.2 -134.6 -134.4 -133.9	-135.4 -135.7 -134.5 -135.4 -136.0 -135.7 -137.1 -136.9 -137.1 -137.3 -136.4 -136.3 -134.2 -134.0 -133.7	-130.8 -129.9 -130.8 -132.5 -133.4 -134.4 -134.6 -135.0 -133.3 -133.2 -133.8 -133.5 -132.2 -131.3 -132.2
1200 1230 1300 1430 1440 1430 1550 1600 1630 1700 1730 1800 1830 1900 1930 2000 2030 2100	-130,9 -136,6 -136,2 -136,0 -135,0 -135,3 -135,3 -135,4	-136,4 -137,7 -138,0 -137,2 -138,4 -137,6 -136,8 -137,6 -137,6 -137,6 -137,5 -137,0 -137,5 -137,0 -136,0 -132,2 -132,5 -133,0 -134,6	-137.5 -136.7 -136.9 -137.2 -136.6 -137.0 -135.8 -137.0 -135.2 -133.7 -133.9 -130.9 -130.9 -130.9	-134.2 -135.1 -135.2 -134.8 -133.6 -133.7 -134.2 -132.2 -129.6 -126.6 -126.6 -126.6 -126.2 -124.0 -124.4 -125.2	-133.3 -133.8 -139.3 -139.3 -139.4 -133.9 -133.2 -139.1 -133.2 -137.9 -137.9 -129.9 -127.9 -127.9	-134.2 -134.8 -134.0 -134.1 -133.7 -133.7 -132.8 -131.9 -131.8 -130.1 -128.8 -127.1 -128.8 -127.1 -128.8 -127.1	-134.0 -133.8 -133.9 -132.7 -134.0 -134.6 -135.4 -135.5 -135.5 -135.5 -134.9 -134.1 -133.9 -134.2 -133.4 -133.5	-136.3 -135.7 -139.3 -135.9 -136.9 -135.1 -132.1 -133.1 -135.5 -134.1 -139.8 -132.6 -133.9 -133.5 -134.0 -134.1 -134.5	-134.9 -135.9 -136.7 -136.6 -136.1 -135.6 -135.7 -136.2 -134.2 -134.5 -134.5	-132.8 -130.6 -133.8 -134.3 -134.6 -135.3 -135.0 -135.6 -135.6 -136.1 -134.6 -134.7	-135.2 -136.5 -135.3 -137.0 -136.5 -135.1 -135.7 -135.0 -136.1 -136.0 -135.5 -135.9 -135.2 -135.7 -135.3 -134.9	-136.4 -136.3 -136.6 -137.0 -136.8 -136.5 -134.6 -136.3 -136.3 -136.0 -135.2 -134.6 -134.4 -133.9 -133.9 -132.5	-135.4 -135.7 -134.5 -135.4 -135.4 -136.0 -135.7 -137.1 -136.9 -137.1 -136.3 -134.2 -134.0 -133.7	-130.8 -129.9 -130.8 -132.5 -133.4 -134.6 -135.0 -133.3 -133.2 -133.8 -132.2 -131.3 -132.2 -132.5
1200 1230 1300 1430 1440 1430 1550 1630 1630 1700 1730 1800 1930 2000 2030 2100 2130	-139,9 -136,6 -136,6 -136,0 -135,9 -135,3 -165,1 -199,7 -139,7	-136,4 -137,7 -138,0 -137,2 -138,4 -137,6 -136,8 -137,6 -137,6 -137,6 -137,6 -137,5 -137,5 -137,5 -137,0 -136,0 -1	-137.5 -136.7 -136.9 -137.0 -137.0 -135.8 -137.0 -135.7 -133.7 -133.7 -133.7 -133.7 -133.7 -133.5 -137.7	-134.2 -135.1 -135.2 -134.8 -133.6 -134.2 -139.5 -129.6 -128.3 -127.6 -126.6 -126.2 -124.0 -124.4 -125.2 -124.5	-133.3 -133.1 -133.8 -139.3 -139.7 -139.4 -133.2 -139.1 -133.2 -139.4 -129.0 -127.9 -128.1 -127.9 -128.1 -127.9 -128.1	-134.2 -134.8 -134.0 -134.1 -133.7 -133.7 -132.8 -131.9 -131.8 -130.1 -128.8 -127.1 -128.8 -127.1 -126.3 -127.7	-134.0 -133.8 -133.9 -132.7 -134.0 -134.6 -135.4 -135.5 -135.5 -135.5 -134.9 -134.1 -133.9 -134.2 -133.4 -133.5 -133.4 -133.5	-136.3 -135.7 -139.3 -135.9 -136.9 -135.1 -132.1 -134.9 -133.1 -135.5 -134.8 -132.6 -133.9 -133.5 -134.1 -133.9 -134.1 -134.9	-134.9 -135.9 -136.7 -135.7 -136.6 -135.6 -135.7 -136.2 -134.6 -134.5 -134.5 -131.3	-132.8 -130.6 -133.8 -134.3 -134.6 -135.3 -135.1 -134.4 -135.6 -135.6 -136.6 -134.7	-135.2 -136.5 -135.3 -137.0 -135.5 -135.1 -135.0 -136.1 -136.0 -135.5 -135.9 -135.2 -135.7 -135.3 -134.5 -135.3 -134.9 -133.0 -132.9	-136.4 -136.3 -136.4 -137.0 -136.8 -136.5 -134.6 -136.3 -136.3 -136.3 -135.3 -135.2 -134.5 -134.6 -134.4 -133.9 -132.5 -132.5 -132.5	-135.4 -135.7 -135.4 -135.4 -135.4 -136.0 -135.7 -137.1 -136.9 -137.1 -136.3 -136.4 -136.3 -134.2 -134.0 -133.7	-130.8 -129.9 -130.8 -132.5 -133.4 -134.4 -134.6 -135.0 -133.3 -133.2 -133.8 -133.5 -132.2 -131.3 -132.7 -130.3 -130.3
1200 1230 1300 1330 1400 1430 1550 1600 1630 1730 1800 1830 1930 2000 2030 2130 2200	-130,9 -136,6 -136,2 -136,0 -135,0 -135,3 -135,3 -135,7 -130,7 -130,7	-136,4 -137,7 -138,0 -137,2 -138,4 -137,6 -136,8 -137,0 -136,6 -136,8 -137,6 -137,6 -137,6 -137,6 -137,6 -137,0 -137,5 -137,0 -136,0 -132,2 -132,5 -133,0 -139,6 -139,6 -139,6 -139,6	-137.5 -136.7 -136.9 -137.2 -136.8 -137.0 -135.8 -137.0 -135.2 -133.7 -133.7 -133.9 -139.9 -139.2 -133.8 -132.7 -133.8	-139.2 -135.1 -135.2 -139.6 -133.7 -139.5 -139.2 -129.6 -128.3 -127.6 -126.6 -126.2 -129.9 -129.9 -129.9 -129.9	-133.3 -133.8 -139.3 -139.4 -133.7 -139.4 -133.2 -139.1 -133.2 -131.5 -129.4 -127.9 -127.9 -127.9 -127.9 -127.9 -127.9 -127.9	-134.2 -134.8 -134.0 -134.1 -133.7 -133.7 -133.8 -131.9 -131.8 -130.1 -128.8 -128.4 -127.6 -127.7 -126.3 -126.3	-134.0 -133.8 -133.3 -133.9 -132.7 -134.0 -134.6 -135.4 -135.5 -135.5 -135.5 -133.7 -134.9 -134.1 -133.8 -134.2 -133.4 -133.4 -133.7	-136.3 -135.7 -134.3 -135.9 -136.9 -135.1 -132.1 -134.9 -133.1 -135.5 -134.8 -132.6 -133.9 -133.5 -134.0 -134.1 -135.5 -134.7	-134.9 -135.9 -136.7 -136.6 -136.6 -135.6 -135.7 -136.2 -134.5 -134.5 -134.5 -131.5	-132.8 -130.6 -133.8 -134.3 -134.6 -135.1 -134.4 -135.0 -135.6 -136.1 -134.6 -134.7	-135.2 -136.5 -135.3 -137.0 -135.5 -135.1 -135.0 -136.1 -136.0 -135.5 -135.9 -135.7 -135.3 -134.5 -135.3 -134.9 -133.9	-136.4 -136.3 -136.4 -137.0 -136.8 -136.3 -136.3 -136.3 -136.3 -136.3 -135.3 -135.2 -134.5 -134.4 -133.9 -132.5 -132.5 -132.5	-135.4 -135.7 -134.5 -135.4 -136.0 -135.7 -137.1 -136.9 -137.1 -136.3 -134.2 -134.0 -133.7 -131.8 -132.4 -132.4	-130.8 -129.9 -130.8 -132.5 -133.4 -134.6 -135.0 -133.3 -133.2 -133.8 -133.5 -132.2 -131.3 -132.2 -131.3 -132.5 -132.5

BEST AVAILABLE COPY

le 1. August 1976 Connecticut 76 Hz Effective Noise Levels (dBH)

												MONTHEY
	8/16	8/17	8/18	8/20	8/21	8/22	8/23	8/24	8/25	8/27		AVEPAGE
+127.7	+129.9	-132.4	-139.8	-131.0	-133.7	-135.0	-133.4	-132.1	-130.8	-130.5		-131.3
= 178, fr	-137-1	-133.0	-133.6	-130.2	-134.4	-136.0	-132.6	-133.6	-131.8	-131.8		-132.0
×130,0	-131.8	-133.1	-134.6	-130.6	-134.3	-135.9	-134.1	-133.5	-132.7	-132.9		-132.5
-130.1	-130.5	-132.4	-135.3	-130.2	-133.9	-136.2	-134.5	-134.3	-133.8	-133.1		-132.8
-130,5	-132.7	-133.6	-135.5	-131.0	-134.6	-137.6	-135.1	-135.1	-133.4	-133.2		-133.4
- 130,0	-137.0	-130.5	-136.9	-132.4	-133.9	-135.7	-136.3	-135.0	-133.5	-134.0		-183.7
-130.8 -131.7	-132.3	-134.6	-136.5.	-133.6	-135.6	-138.1	-136.6	-135.4	-139.5	-135.1		-134.4
= 130.8	-133.7 -135.5	-134.6 -134.8	-137.1	-134.7	-136.7	-137.8	-136.5	-134.4	-130.4	-135.3		-174.7
-129.7	-134.0	-135.1	-136,9	-134.0	-136.5	-138.3	-136.3	-135.4	-134.9	-135.6		-126.0
-130.2	-131.4	-135.6	-137.3	-134.9	-137.5	-138.5	-137.2	-134.9	-135.1	-134.9		+135.1
-(29.6	-130.0	-134.0	-137.7 -137.2	-134.6	-136.8	-139.0	-138.1	-135.6	-135.0	-134.9		-135.3
-108.8	-130.8	-134.4	-137.9	-135.0	-137.3	-140.2	-136.7	-135.3	-135.5	-136.3		-135.3
-178.3	-130.2	-135.2	-137.0	-133.8	-136.8	-138.7	-137.7	-136.0	-135.6			-135.3
-177.6	-139.5	-134.7	-136.5	-132.3	-137.1	-139.8	-136.0	-135.9	-136.5			-135.2
	-170.5	-136.1	-136.6	-132.7	-136.7	-138.2	-137.7	-135.0	-136.8			-135.1 -135.5
	-130.3	-137.3	-136.0	-132.3 -131.8	-136.4	-138.6	-136.9	-135.9	-136.5			-135.7
	-134.3	-137.3	-137.1		-136.3	-138.2	-137.7	-136.0	-137.2			-136.0
	-139.7	-136.2	-136.6	-132.4 -133.3	-136.7 -136.3	-138.7 -138.0	-136.6	-135.4	-137.4			-135.8
	-1 84.4	-136.6	-137.0	-133.4	-136.6	-138.0	-137.8 -136.4	-133.5 -133.4	-136.6			-135.8
	-133.6	-135.4	-136.3	-133.8	-135.6	-137.7	-136.6		-137.3			-135.6
	-177.5	-134.3	-136.7	-133.4	-135.9	-136.8	-137.2		-136.3			-135.2
	-133.7	-130.0	-137.3	-133.7	-135.7	-137.6	-136.4		-135.2 -135.7			-134.8
							- F Division					
- 111	-1.534.7	- 137.7	- 1 3f B		-136.7	-136.5	-136.7		176 E			- RI. H
-179,0	-130.2	-132.7	-136.8		-136.7	-136.5	-136.7		-135.6			-134.8 MONTHLY
8/14	-139.2 8/15	8/17	-136.8 8/18	8/19	-136.7 8/20	-136.5 8/21	-136.7 8/22	8/23	-135.6 8/24	8/25	8/26	8/27 MONTHLY
8/14	8/15	8/17	8/18	8/19	8/20	8/21	8/22	8/23	8/24	8/25		8/27 MONTHLY AVERAGE
8/19 +133,3	8/15 -139.2	8/17 -134.0	8/18 -136.3	8/19	8/20 -132.8	8/21 -135.2	8/22 -136.4	8/23 -135.4	8/24	8/25 -134.9	-134.2	8/27 MONTHLY AVERAGE -135.8 -134.7
8/19 -133,3 -133,1	8/15 -139.7 -134.8	8/17 -134.0 -133.8	8/18 -136.3 -135.7	8/19	8/20 -132.8 -130.6	8/21 -135.2 -136.5	8/22 -136.4 -136.3	8/23 -135.4 -135.7	8/24	8/25 -134.9 -133.2	-134.2 -132.9	8/27 MONTHLY AVERAGE -135.8 -134.7 -135.5 -134.5
8/19 -133,3 -133,1 -133,8	8/15 -139.2 -139.8 -139.8	8/17 -134.0 -133.8 -133.3	8/18 -136.3 -135.7 -130.3	8/19	8/20 -132.8 -130.6 -133.8	8/21 -135.2 -136.5 -135.3	8/22 -136.4 -136.3 -136.4	8/23 -135.4 -135.7 -134.5	8/24	8/25 -134.9 -133.2 -134.5	-134.2 -132.9 -133.4	8/27 MONTHLY AVERAGE -135.8 -134.7 -135.5 -134.5 -134.9 -134.5
8/14 -133.3 -133.1 -133.8 -139.3	8/15 -130.7 -130.8 -130.8 -130.0	8/17 -13%.0 -133.8 -133.3 -133.9	8/18 -136.3 -135.7 -134.3 -135.9	8/19	8/20 -132.8 -130.6 -133.8 -134.3	8/21 -135.2 -136.5 -135.3 -137.0	8/27 -136.4 -136.3 -136.4 -137.0	8/23 -135.4 -135.7 -134.5 -135.4	8/24	8/25 -134.9 -133.2 -134.5 -133.9	-134.2 -132.9 -133.4 -134.5	8/27 MONTHLY AVERAGE -135.8 -134.7 -135.5 -134.5 -134.9 -134.5 -135.4 -134.8
8/14 -1/13, 3 -1/13, 1 -1/13, 8 -1/19, 7 -1/13, 7	8/15 -130.7 -130.8 -130.8 -130.0 -130.1	8/17 -13%.0 -133.8 -133.3 -133.9 -132.7	8/18 -136.3 -135.7 -134.3 -135.9 -136.9	8/19	8/20 -132.8 -130.6 -133.8 -134.3 -134.6	8/21 -135.2 -136.5 -135.3 -137.0 -135.5	8/27 -136.4 -136.3 -136.4 -137.0 -136.8	8/23 -135.4 -135.7 -134.5 -135.4 -135.4	8/24 	8/25 -134.9 -133.2 -134.5 -132.9 -133.4	-134.2 -132.9 -133.4 -134.5 -132.8	8/27 MONTHLY AVERAGE -135.8 -134.7 -135.5 -134.5 -134.9 -134.5 -135.4 -134.8 -134.3 -134.5
8/14 -1/13, 3 -1/33, 1 -1/33, 8 -1/30, 3 -1/33, 7 -1/30, 9	8/15 -130.7 -130.8 -130.8 -130.0 -130.1 -133.7	8/17 -130.0 -133.8 -133.3 -133.9 -132.7 -130.2	8/18 -136.3 -135.7 -134.3 -135.9 -136.9 -135.1	8/19	8/20 -132.8 -130.6 -133.8 -134.3 -134.6 -135.3	8/21 -135.2 -136.5 -135.3 -137.0 -135.5 -135.1	8/22 -136.4 -136.3 -136.4 -137.0 -136.8 -136.5	8/23 -135.4 -135.7 -134.5 -135.4 -136.0	8/24 	8/25 -134.9 -133.2 -134.5 -132.9 -133.4	-134.2 -132.9 -133.4 -134.5 -132.8 -134.7	8/27 MONTHLY AVERAGE -135.8 -134.7 -135.5 -134.5 -134.9 -134.5 -135.4 -134.8 -134.3 -134.5 -132.5 -134.7
8/14 -133,3 -133,1 -133,8 -133,7 -133,7 -133,4	8/15 -139.7 -139.8 -139.8 -139.0 -139.1 -133.7 -133.2	8/17 -134.0 -133.8 -133.3 -133.9 -132.7 -134.2 -134.0	8/18 -136.3 -135.7 -134.3 -135.9 -136.9 -135.1 -132.1	8/19 	8/20 -132.8 -130.6 -133.8 -134.3 -134.6 -135.3 -135.1	8/21 -135.2 -136.5 -135.3 -137.0 -135.5 -135.1 -135.7	8/27 -136.4 -136.3 -136.4 -137.0 -136.8 -136.5 -134.6	8/23 -135.4 -135.7 -134.5 -135.4 -136.0 -135.7	-130.8 -129.9 -130.8 -137.5	8/25 -134.9 -133.2 -134.5 -132.9 -133.4	-134.2 -132.9 -133.4 -134.5 -132.8 -134.7 -135.6	8/27 MONTHLY AVERAGE -135.8 -134.7 -135.5 -134.5 -134.9 -134.5 -135.4 -134.8 -134.3 -134.5 -132.5 -134.7 -135.2 -134.6
8/19 -133, 3 -133, 1 -133, 8 -130, 7 -133, 7 -133, 7 -133, 9 -133, 7	8/15 -139.2 -139.8 -139.8 -139.1 -139.1 -133.7 -133.2 -133.7	8/17 -134.0 -133.8 -133.3 -133.9 -132.7 -134.2 -134.0 -134.6	8/18 -136.3 -135.7 -134.3 -135.9 -136.9 -135.1 -132.1 -134.9	8/19 	8/20 -132.8 -130.6 -133.8 -134.3 -134.6 -135.3 -135.1 -134.4	8/21 -135.2 -136.5 -135.3 -137.0 -135.5 -135.1 -135.7 -135.0	8/22 -136.4 -136.3 -136.4 -137.0 -136.8 -136.5 -134.6 -136.2	8/23 -135.4 -135.7 -134.5 -135.4 -136.0 -135.7 -137.1	-130.8 -129.9 -130.8 -129.5 -133.4	8/25 -134.9 -133.2 -134.5 -132.9 -133.4 -134.5	-134.2 -132.9 -133.4 -134.5 -132.8 -134.7 -135.6 -136.4	8/27 MONTHLY AVERAGE -135.8 -134.7 -135.5 -134.5 -134.9 -134.5 -135.4 -134.8 -134.3 -134.5 -132.5 -134.7 -135.2 -134.6 -134.5 -134.9
8/19 -1/3, 3 -1/3, 1 -1/3, 8 -1/3, 7 -1/3, 7 -1/3, 9 -1/3, 9 -1/3, 9 -1/3, 2 -1/3, 2	8/15 -130.7 -130.8 -130.8 -130.0 -130.1 -133.7 -133.7 -132.8	8/17 -134.0 -133.8 -133.3 -132.7 -134.2 -134.6 -135.4	8/18 -136.3 -135.7 -139.3 -136.9 -136.9 -132.1 -132.1 -139.9 -133.1	-134.9 -135.9 -136.7 -135.7	8/20 -132.8 -130.6 -133.8 -134.6 -135.3 -134.6 -135.1 -134.4 -135.0	8/21 -135.2 -136.5 -135.3 -137.0 -135.5 -135.1 -135.7 -135.0 -136.1	8/22 -136.4 -136.3 -136.4 -137.0 -136.8 -136.5 -134.6 -136.2 -136.3	8/23 -135.4 -135.7 -134.5 -135.4 -136.0 -135.7 -137.1 -136.9	-130.8 -129.9 -130.8 -129.9 -130.8 -137.5 -133.4 -134.4	8/25 -134.9 -133.2 -134.5 -132.9 -133.4 -134.5 -133.9	-134.2 -132.9 -133.4 -134.5 -132.8 -134.7 -135.6 -136.4 -135.2	8/27 MONTHLY AVERAGE -135.8 -134.7 -135.5 -134.5 -134.5 -134.5 -134.5 -134.5 -134.5 -132.5 -134.6 -134.5 -135.2 -134.6 -134.5 -
8/19 -1/3, 3 -1/3, 1 -1/3, 8 -1/9, 7 -1/3, 7 -1/3, 7 -1/3, 7 -1/3, 2	8/15 -139.2 -139.8 -139.8 -139.0 -139.1 -133.7 -133.7 -132.8 -131.9	8/17 -130.0 -133.8 -133.3 -133.9 -132.7 -134.0 -134.6 -135.4 -135.5	8/18 -136.3 -135.7 -139.3 -135.9 -136.9 -135.1 -132.1 -139.9 -133.1 -135.5	-134.9 -135.9 -136.7 -136.6	8/20 -132.8 -130.6 -133.8 -134.3 -135.3 -135.1 -136.4 -135.0 -135.6	8/21 -135.2 -136.5 -135.3 -137.0 -134.5 -135.1 -135.7 -135.0 -136.1 -136.0	8/27 -136.4 -136.3 -136.4 -137.0 -136.8 -136.5 -134.6 -136.2 -136.3 -136.3	8/23 -135.4 -135.7 -134.5 -135.4 -136.0 -135.7 -137.1 -136.9 -137.1	-130.8 -129.9 -130.8 -137.5 -133.4 -134.4 -134.6	8/25 -134.9 -133.2 -134.5 -132.9 -133.4 -134.5 -133.9 -133.5	-134.2 -132.9 -133.4 -134.5 -132.8 -134.7 -135.6 -136.4 -135.2 -135.3	8/27 MONTHLY AVERAGE -135.8 -134.7 -135.5 -134.5 -134.9 -134.8 -134.8 -134.5 -132.5 -134.6 -134.5 -
8/19 -1/3, 3 -1/3, 1 -1/3, 8 -1/9, 7 -1/3, 7 -1/3, 7 -1/3, 7 -1/3, 7 -1/3, 2 -1/3, 2 -1/3, 2 -1/3, 2	8/15 -130.2 -130.8 -130.8 -130.0 -130.1 -133.7 -133.2 -133.7 -131.8	8/17 -134.0 -133.8 -133.3 -133.9 -132.7 -134.0 -134.6 -135.4 -135.5 -135.5	8/18 -136.3 -135.7 -130.3 -135.9 -136.9 -135.1 -132.1 -130.9 -133.1 -130.9 -134.1	-134.9 -135.9 -136.7 -136.6 -136.1	8/20 -132.8 -130.6 -133.8 -134.3 -134.6 -135.3 -135.1 -135.0 -135.6 -135.6	8/21 -135.2 -136.5 -135.3 -137.0 -136.1 -135.7 -135.0 -136.1 -136.0 -135.5	8/22 -136.4 -136.3 -136.4 -137.0 -136.8 -136.5 -134.6 -136.2 -136.3 -136.3	8/23 -135.4 -135.7 -134.5 -135.4 -136.0 -135.7 -137.1 -136.9 -137.1 -137.3	-130.8 -129.9 -130.8 -132.5 -133.4 -134.6 -135.0	8/25 -134.9 -133.2 -134.5 -132.9 -133.4 -134.5 -133.9 -133.5 -134.3	-134.2 -132.9 -133.4 -134.5 -132.8 -134.7 -135.6 -136.4 -135.2 -135.3 -134.0	8/27 MONTHLY AVERAGE -135.8 -134.7 -135.5 -134.5 -134.9 -134.5 -134.3 -134.5 -132.5 -134.7 -135.2 -134.6 -134.5 -134.9 -132.5 -134.9 -132.5 -134.9 -134.1 -134.8
8/19 -1 (3, 3 -1 (3, 1 -1 (3, 1 -1 (3, 8 -1 (9, 9 -1 (3, 7 -1 (9, 9 -1 (1 (3, 7) -1 (3, 7)	8/15 -130.2 -130.8 -130.8 -130.1 -133.7 -133.2 -133.7 -132.8 -131.9 -131.8	8/17 -134.0 -133.8 -133.3 -133.9 -132.7 -134.2 -134.6 -135.4 -135.5 -135.5 -133.7	8/18 -136.3 -135.7 -130.3 -135.9 -136.9 -135.1 -130.9 -133.1 -136.5 -130.1 -130.8	-134.9 -135.9 -136.7 -136.6	8/20 -132.8 -130.6 -133.8 -134.3 -135.3 -135.1 -136.4 -135.0 -135.6	8/21 -135.2 -136.5 -135.3 -137.0 -134.5 -135.1 -135.7 -135.0 -136.1 -136.0	8/22 -136.4 -136.3 -136.4 -137.0 -136.8 -136.5 -134.6 -136.2 -136.3 -136.3 -136.0 -135.3	8/23 -135.4 -135.7 -134.5 -135.4 -136.0 -135.7 -137.1 -136.9 -137.1 -137.3 -136.4	-130.8 -129.9 -130.8 -137.5 -133.4 -134.4 -134.6 -135.0 -133.3	8/25 -134.9 -133.2 -134.5 -132.9 -133.4 -134.5 -133.9 -133.5 -134.3 -133.3	-134.2 -132.9 -133.4 -134.5 -132.8 -134.7 -135.6 -136.4 -135.2 -135.3 -134.0 -132.9	8/27 MONTHLY AVERAGE -135.8 -134.7 -135.5 -134.5 -134.9 -134.8 -134.8 -134.5 -132.5 -134.6 -134.5 -
8/19 -1/3, 3 -1/3, 1 -1/3, 8 -1/9, 7 -1/3, 7 -1/3, 7 -1/3, 7 -1/3, 7 -1/3, 2 -1/3, 2 -1/3, 2 -1/3, 2	8/15 -130.2 -130.8 -130.8 -130.0 -130.1 -133.7 -133.2 -133.7 -131.8	8/17 -134.0 -133.8 -133.3 -133.9 -132.7 -134.0 -134.6 -135.4 -135.5 -135.5	8/18 -136.3 -135.7 -130.3 -135.9 -136.9 -135.1 -132.1 -130.9 -133.1 -130.9 -134.1	-134.9 -135.9 -136.7 -136.7 -136.6 -136.1 -135.6	8/20 -132.8 -130.6 -133.8 -134.3 -134.5 -135.1 -136.4 -135.6 -135.6 -135.6	8/21 -135.2 -136.5 -135.3 -137.0 -135.5 -135.1 -135.7 -136.1 -136.0 -135.5 -135.9	8/22 -136.4 -136.3 -136.4 -137.0 -136.8 -136.5 -134.6 -136.2 -136.3 -136.3	8/23 -135.4 -135.7 -134.5 -135.4 -136.0 -135.7 -137.1 -136.9 -137.1 -137.3	-130.8 -129.9 -130.8 -132.5 -133.4 -134.6 -135.0	8/25 -134.9 -133.2 -134.5 -132.9 -133.4 -134.5 -133.9 -133.5 -134.3	-134.2 -132.9 -133.4 -134.5 -132.8 -134.7 -135.6 -136.4 -135.2 -135.3 -134.0	8/27 MONTHLY AVERAGE -135.8 -134.7 -135.5 -134.5 -134.5 -134.5 -134.5 -134.5 -134.5 -135.2 -134.6 -134.5 -132.5 -134.8 -133.3 -134.8 -132.8 -134.2
8/19 -1/3, 3 -1/3, 1 -1/3, 8 -1/9, 3 -1/3, 7 -1/9, 9 -1/31, 9 -1/31, 9 -1/33, 2 -1/32, 9 -1/33, 2 -1/32, 9 -1/33, 2 -1/31, 5	8/15 -139.2 -139.8 -139.8 -139.0 -139.1 -133.7 -133.2 -133.7 -132.8 -131.9 -130.1 -128.8	8/17 -134.0 -133.8 -133.3 -132.7 -134.2 -134.0 -135.4 -135.5 -135.5 -137.7 -134.9	8/18 -136.3 -135.7 -130.3 -135.9 -136.9 -136.1 -132.1 -130.9 -133.1 -135.1 -130.8 -130.8	-134.9 -135.9 -135.7 -136.6 -135.6 -135.7	8/20 -132.8 -130.6 -133.8 -134.3 -135.3 -135.1 -135.0 -135.6 -135.6 -136.1 -134.6	8/21 -135.2 -136.5 -135.3 -137.0 -135.5 -135.1 -135.0 -136.1 -136.0 -135.5 -135.9	8/22 -136.4 -136.3 -136.4 -137.0 -136.8 -136.5 -134.6 -136.3 -136.3 -136.3 -136.3 -135.3	8/23 -135.4 -135.7 -134.5 -135.4 -136.0 -135.7 -137.1 -136.9 -137.1 -137.3 -136.4 -136.4	8/24 -130.8 -129.9 -130.8 -132.5 -133.4 -134.4 -134.6 -135.0 -133.3 -133.2	8/25 -134.9 -133.2 -134.5 -132.9 -133.4 -134.5 -133.9 -134.3 -133.3 -133.3	-134.2 -132.9 -133.4 -134.5 -132.8 -134.7 -135.6 -136.4 -135.2 -135.3 -134.0 -132.9 -132.4	8/27 MONTHLY AVERAGE -135.8 -134.7 -135.5 -134.5 -134.5 -134.5 -134.5 -134.5 -134.5 -135.2 -134.6 -134.5 -134.5 -134.5 -134.5 -134.5 -134.5 -134.5 -134.5 -134.5 -134.5 -134.5 -134.8 -132.8 -134.8 -132.8 -134.2 -132.2 -133.3
8/19 -123, 3 -133, 1 -133, 8 -139, 7 -133, 7 -133, 9 -133, 9 -133, 2 -133, 2 -133, 2 -133, 2 -133, 2 -133, 2 -133, 2	8/15 -139.2 -139.8 -139.8 -139.1 -133.7 -133.7 -133.7 -133.9 -131.8 -131.8 -130.1 -128.8 -128.9	8/17 -134.0 -133.8 -133.3 -133.9 -132.7 -134.7 -134.6 -135.5 -135.5 -135.5 -134.9 -134.1	8/18 -136.3 -135.7 -130.3 -135.9 -136.9 -135.1 -137.1 -134.9 -133.1 -135.5 -130.1 -130.8 -132.6 -133.9	-134.9 -135.9 -136.7 -136.6 -136.1 -135.6 -136.2	8/20 -132.8 -130.6 -133.8 -134.3 -135.3 -135.1 -134.4 -135.0 -135.6 -135.6 -136.6 -134.6 -134.6	8/21 -135.2 -136.5 -135.3 -137.0 -136.1 -135.7 -135.0 -136.0 -135.5 -135.9 -135.2	8/22 -136.4 -136.3 -136.4 -137.0 -136.8 -136.5 -134.6 -136.3 -136.3 -136.0 -135.3 -135.3 -136.5	8/23 -135.4 -135.7 -134.5 -135.4 -136.0 -135.7 -137.1 -136.9 -137.1 -136.3 -136.4 -136.3	-130.8 -129.9 -130.8 -132.5 -133.4 -134.4 -134.6 -135.0 -133.3 -133.2 -133.8	8/25 -134.9 -133.2 -134.5 -133.9 -133.4 -134.5 -133.9 -133.5 -134.3 -133.3 -133.3 -133.3	-130.2 -132.9 -133.4 -134.5 -132.8 -134.7 -135.6 -136.4 -135.2 -135.3 -134.0 -132.9 -132.4 -131.0	8/27 MONTHLY AVERAGE -135.8 -134.7 -135.5 -134.5 -134.9 -134.8 -134.5 -134.6 -134.5 -134.5 -132.5 -134.6 -134.5 -132.5 -134.6 -134.5 -132.5 -134.8 -133.3 -134.8 -132.8 -134.2 -132.8 -134.2 -132.8 -134.2 -132.8 -134.2 -130.8 -132.7
8/19 -1/3, 3 -1/3, 1 -1/3, 8 -1/9, 9 -1/3, 7 -1/3, 9 -1/3, 2 -1/3,	8/15 -130.2 -130.8 -130.8 -130.0 -130.1 -133.7 -133.2 -133.7 -133.8 -131.8 -140.1 -128.8 -128.0 -127.1	8/17 -134.0 -133.8 -133.3 -133.9 -134.2 -134.0 -134.6 -135.5 -135.5 -135.5 -134.9 -134.1 -133.9	8/18 -136.3 -135.7 -130.3 -135.9 -136.9 -135.1 -132.1 -130.9 -135.5 -130.1 -135.5 -130.3 -135.5 -130.3	-134.9 -135.9 -136.7 -136.6 -136.1 -135.6 -135.7 -136.2	8/20 -132.8 -130.6 -133.8 -134.3 -135.3 -135.1 -135.0 -135.6 -135.6 -136.1 -134.6	8/21 -135.2 -136.5 -135.3 -137.0 -135.1 -135.7 -135.7 -136.0 -136.0 -135.5 -135.9 -135.2 -135.7	8/22 -136.4 -136.3 -136.8 -136.5 -134.6 -136.3 -136.3 -136.0 -135.3 -136.0 -135.3 -134.5 -134.5	8/23 -135.4 -135.7 -134.5 -135.4 -136.0 -135.7 -137.1 -136.9 -137.1 -136.4 -136.4 -136.4 -136.4	-130.8 -129.9 -130.8 -137.5 -133.4 -134.4 -134.6 -135.0 -133.3 -133.2 -133.8 -133.5	8/25 -134.9 -133.2 -134.5 -133.9 -133.9 -133.5 -134.3 -133.3 -132.5 -131.3 -130.7	-134.2 -132.9 -133.4 -134.5 -132.8 -134.7 -135.6 -136.4 -135.2 -135.3 -134.0 -132.9 -132.4 -131.0 -130.5	8/27 MONTHLY AVERAGE -135.8 -134.7 -135.5 -134.5 -134.5 -134.8 -134.8 -134.5 -134.5 -135.2 -134.6 -134.5 -135.2 -134.6 -134.5 -134.6 -134.8 -133.2 -134.9 -134.1 -134.8 -133.2 -134.1 -134.8 -133.8 -134.1 -134.8 -133.8 -134.1 -134.8 -134.1 -
8/19 -1 (3, 3) -1 (3, 1) -1 (3, 2) -1 (3, 3) -1 (3, 4) -1 (3, 2) -1 (3	8/15 -130.2 -130.8 -130.8 -130.1 -133.7 -133.7 -133.7 -131.8 -131.9 -131.8 -128.8 -128.8	8/17 -134.0 -133.8 -133.9 -132.7 -134.2 -134.6 -135.5 -135.5 -135.5 -134.9 -134.1 -133.9 -133.8	8/18 -136.3 -135.7 -130.3 -135.9 -136.9 -135.1 -132.1 -130.9 -133.1 -135.5 -130.1 -130.8 -132.6 -133.9 -133.5 -130.0	-134.9 -135.9 -136.7 -136.6 -136.1 -135.6 -135.7 -136.2	8/20 -132.8 -130.6 -133.8 -134.3 -134.6 -135.3 -135.1 -135.0 -135.6 -135.6 -136.1 -134.6 -134.7	8/21 -135.2 -136.5 -135.3 -137.0 -136.1 -135.7 -135.0 -136.0 -135.5 -135.9 -135.2 -135.7 -135.7	8/22 -136.4 -136.3 -136.4 -136.8 -136.5 -134.6 -136.2 -136.3 -136.3 -136.0 -135.3 -135.2 -134.6 -134.4	8/23 -135.4 -135.7 -134.5 -135.4 -136.0 -135.7 -137.1 -136.9 -137.1 -136.3 -134.0 -134.0 -133.7	8/24 -130.8 -129.9 -130.8 -137.5 -133.4 -134.6 -135.0 -133.3 -133.2 -133.5 -133.5	8/25 -134.9 -133.2 -134.5 -132.9 -133.4 -134.5 -133.5 -134.3 -133.3 -132.5 -131.3 -130.7 -129.8	-134.2 -132.9 -133.4 -134.5 -132.8 -134.7 -135.6 -136.4 -135.2 -135.3 -134.0 -132.9 -132.4 -131.0 -130.5 -129.2	8/27 MONTHLY AVERAGE -135.8 -134.7 -135.5 -134.5 -134.9 -134.5 -134.3 -134.5 -132.5 -134.7 -135.2 -134.6 -134.5 -134.9 -132.5 -134.9 -132.5 -134.9 -132.5 -134.9 -132.5 -134.9 -132.5 -134.9 -132.5 -134.9 -130.5 -134.9 -130.7 -131.7
8/19 -1 (3, 3 -1 (1, 1 -1 33, 8 -1 30, 7 -1 (3, 2 -1 31, 9 -1 33, 2 -1 30, 1 -1 33, 2 -1 33, 2 -1 33, 2 -1 33, 2 -1 29, 9 -1 29, 9 -1 29, 9 -1 29, 9 -1 29, 1	8/15 -130.2 -134.8 -134.8 -139.0 -136.1 -133.7 -132.8 -131.9 -131.8 -128.8 -128.8 -128.8 -128.8 -127.6	8/17 -134.0 -133.8 -133.9 -132.7 -134.2 -134.0 -134.6 -135.4 -135.5 -133.7 -134.9 -134.1 -133.8 -134.2	8/18 -136.3 -135.7 -130.3 -135.9 -136.9 -135.1 -130.9 -133.1 -130.8 -132.6 -133.9 -133.1 -130.8 -132.6 -133.9 -131.1	-134.9 -135.9 -135.7 -136.7 -136.1 -135.6 -135.7 -136.2 -134.2 -134.6	8/20 -132.8 -130.6 -133.8 -134.3 -134.6 -135.1 -136.4 -135.6 -136.1 -134.6 -134.7	8/21 -135.2 -136.5 -135.3 -137.0 -135.5 -135.1 -135.0 -136.1 -136.0 -135.5 -135.9 -135.2 -135.2 -135.3 -134.5	8/22 -136.4 -136.3 -136.4 -137.0 -136.8 -136.5 -134.6 -136.3 -136.3 -136.0 -135.3 -135.2 -134.5 -134.5 -134.5	8/23 -135.4 -135.7 -134.5 -135.4 -136.0 -135.7 -137.1 -136.9 -137.3 -136.4 -136.3 -134.2 -134.2	8/24 -130.8 -129.9 -130.8 -137.5 -133.4 -134.4 -134.6 -135.0 -133.3 -133.2 -133.8 -133.2 -133.8	8/25 -134.9 -133.2 -134.5 -132.9 -133.4 -134.5 -134.3 -139.5 -131.3 -130.7 -129.8 -129.6	-134.2 -132.9 -133.4 -134.5 -132.8 -134.7 -135.6 -136.4 -135.2 -135.3 -134.0 -132.9 -132.4 -131.0 -130.5 -129.2 -127.5	8/27 MONTHLY AVERAGE -135.8 -134.7 -135.5 -134.5 -134.9 -134.8 -134.5 -134.5 -134.5 -134.5 -132.5 -134.6 -134.5 -132.5 -134.6 -134.5 -132.5 -134.8 -132.8 -134.8 -132.8 -134.2 -132.2 -131.1 -131.1
8/19 -123, 3 -133, 1 -133, 8 -139, 7 -133, 7 -133, 7 -133, 2 -133, 2 -142, 9 -133, 2 -129, 9 -129, 0 -127, 9 -128, 1 -127, 6	8/15 -130.2 -130.8 -130.8 -130.1 -133.7 -133.7 -133.7 -133.7 -133.7 -133.7 -133.7 -132.8 -131.8 -130.1 -128.8 -128.9 -127.1	8/17 -134.0 -133.8 -133.3 -133.9 -132.7 -134.7 -134.6 -135.5 -135.5 -135.5 -134.9 -134.1 -133.9 -134.1 -133.9 -134.2 -133.4	8/18 -136.3 -135.7 -139.3 -135.9 -136.9 -135.1 -137.1 -134.9 -133.1 -135.5 -130.1 -130.8 -132.6 -133.9 -133.5 -130.0 -130.1 -133.9	-134.9 -135.9 -136.7 -136.6 -136.1 -136.6 -136.2 -134.2 -134.6 -134.5	8/20 -132.8 -130.6 -133.8 -130.6 -135.3 -135.1 -130.0 -135.6 -135.6 -136.1 -130.7	8/21 -135.2 -136.5 -135.3 -137.0 -136.1 -135.7 -135.0 -136.1 -136.0 -135.5 -135.9 -135.2 -135.7 -135.3 -134.5 -135.3	8/22 -136.4 -136.3 -136.4 -137.0 -136.8 -136.5 -134.6 -136.3 -136.3 -136.0 -135.3 -135.3 -134.6 -134.4 -133.9 -133.9	8/23 -135.4 -135.7 -134.5 -135.4 -136.0 -135.7 -137.1 -136.9 -137.1 -136.3 -136.4 -136.3 -134.2 -134.0 -133.7	-130.8 -129.9 -130.8 -132.5 -133.4 -134.4 -134.6 -135.0 -133.3 -133.2 -133.8 -133.5 -132.2	8/25 -134.9 -133.2 -134.5 -133.9 -133.9 -133.5 -134.3 -133.5 -134.3 -130.7 -129.6 -129.7	-134.2 -132.9 -133.4 -134.5 -132.8 -134.7 -135.6 -136.4 -135.2 -135.3 -134.0 -132.9 -132.4 -131.0 -130.5 -129.2 -129.2	8/27 MONTHLY AVERAGE -135.8 -134.7 -135.5 -134.5 -134.9 -134.8 -134.5 -134.5 -134.5 -132.5 -134.6 -134.5 -132.5 -134.9 -132.5 -134.8 -132.8 -134.2 -132.8 -134.2 -132.2 -132.2 -133.3 -130.8 -132.7 -130.9 -131.7131.2131.1130.5
8/19 -1 (3, 3) -1 (3, 1) -1 (3, 2) -1 (3, 7) -1 (3, 9) -1 (2, 9) -1 (2	8/15 -130.2 -130.8 -130.8 -130.0 -130.1 -133.7 -133.2 -133.7 -132.8 -131.9 -131.8 -130.1 -128.8 -127.1 -128.8 -127.6 -127.7 -126.3	8/17 -134.0 -133.8 -133.9 -132.7 -134.2 -134.6 -135.6 -135.5 -135.5 -133.7 -134.1 -133.9 -133.8 -134.2 -133.4 -133.4 -133.7	8/18 -136.3 -135.7 -130.3 -135.9 -136.9 -135.1 -132.1 -130.9 -133.1 -130.8 -132.6 -130.1 -130.8 -132.6 -130.1 -130.8 -130.7	-134.9 -135.9 -136.7 -136.6 -136.1 -135.6 -135.7 -136.2 -134.6 -134.5 -133.1 -132.6 -131.5	8/20 -132.8 -130.6 -133.8 -134.3 -134.6 -135.3 -135.1 -130.4 -135.6 -135.6 -136.7	8/21 -135.2 -136.5 -135.3 -137.0 -136.1 -135.7 -135.0 -136.1 -136.0 -135.5 -135.9135.2 -135.7 -135.3 -134.5 -135.3 -134.5 -135.3 -134.5 -135.3 -134.9 -133.9 -133.9	8/22 -136.4 -136.3 -136.8 -136.5 -134.6 -136.3 -136.3 -136.3 -136.0 -135.3 -135.3 -134.6 -134.4 -133.9 -132.5	8/23 -135.4 -135.7 -134.5 -135.4 -136.0 -135.7 -137.1 -136.9 -137.1 -136.3 -136.3 -134.2 -134.0 -133.7 -131.8 -132.4	-130.8 -129.9 -130.8 -132.5 -133.4 -134.4 -134.6 -135.0 -133.3 -133.2 -133.8 -133.5 -132.2 -131.3 -132.2	8/25 -134.9 -133.2 -134.5 -132.9 -133.4 -134.5 -133.5 -133.5 -134.3 -132.5 -131.3 -129.8 -129.6 -129.7 -129.8 -129.6 -129.3 -128.6 -128.5	-134.2 -132.9 -133.4 -134.5 -132.8 -134.7 -135.6 -136.4 -135.2 -135.3 -134.0 -132.9 -132.4 -131.0 -130.5 -129.2 -127.5 -126.1 -125.9 -126.3 -125.6	8/27 MONTHLY AVERAGE -135.8 -134.7 -135.5 -134.5 -134.9 -134.5 -134.5 -134.5 -134.5 -134.5 -134.5 -134.5 -134.5 -134.5 -134.5 -134.5 -134.5 -134.5 -134.8 -132.5 -134.9 -134.1 -134.8 -132.8 -132.2 -132.2 -133.3 -130.8 -132.7 -130.8 -132.7 -130.8 -132.7 -130.5 -130.5 -130.5 -130.0
8/19 -1 (3, 3) -1 (3, 1) -1 (3, 8) -1 (9, 9) -1 (10, 9) -1 (13, 9) -1 (13, 2) -1 (13, 9) -1 (13, 9) -1 (13, 9) -1 (13, 9) -1 (12, 9)	8/15 -130.2 -130.8 -130.8 -130.1 -133.7 -133.7 -133.7 -133.7 -131.8 -131.9 -131.8 -128.9 -127.1 -128.8 -127.1 -126.3 -125.9 -127.7	8/17 -134.0 -133.8 -133.3 -133.9 -132.7 -134.7 -134.6 -135.5 -135.5 -135.5 -134.9 -134.1 -133.9 -134.1 -133.9 -134.1 -133.9 -133.4 -133.5 -133.7 -133.1	8/18 -136.3 -135.7 -139.3 -135.9 -136.9 -135.1 -132.1 -134.9 -133.1 -135.5 -134.1 -139.8 -132.6 -133.9 -133.5 -134.1 -133.9 -135.5 -134.8	-134.9 -135.9 -136.7 -135.7 -136.6 -136.1 -135.7 -136.2 -134.6 -134.5 -134.5 -131.3	8/20 -132.8 -130.6 -133.8 -130.3 -134.6 -135.3 -135.1 -130.4 -135.6 -135.6 -136.1 -134.6 -136.7	8/21 -135.2 -136.5 -135.3 -137.0 -136.5 -135.1 -136.0 -136.1 -136.0 -135.5 -135.9 -135.2 -135.7 -135.3 -134.5 -135.3 -134.5 -135.3 -134.5 -135.3 -134.5 -135.3	8/22 -136.4 -136.3 -136.8 -136.5 -134.6 -136.3 -136.3 -136.0 -135.3 -136.0 -135.3 -138.0 -135.2 -134.5 -134.6 -134.6 -134.6 -134.5 -132.5 -132.5 -132.5	8/23 -135.4 -135.7 -134.5 -135.4 -136.0 -135.7 -137.1 -136.9 -137.1 -137.3 -136.4 -136.4 -138.2 -134.0 -133.7131.8 -132.4 -132.4	-130.8 -129.9 -130.8 -137.5 -133.4 -134.4 -134.6 -135.0 -133.3 -133.2 -133.8 -133.5 -132.2 -131.3 -132.5 -130.3 -130.3	8/25 -134.9 -133.2 -134.5 -133.9 -133.5 -133.9 -133.5 -134.3 -130.7 -129.8 -129.6 -129.7 -129.3 -128.5 -128.5 -128.5	-134.2 -132.9 -133.4 -134.5 -132.8 -134.7 -135.6 -136.4 -135.2 -135.3 -134.0 -132.9 -132.4 -131.0 -130.5 -129.2 -127.5 -126.1 -125.9 -126.3 -125.8	8/27 MONTHLY AVERAGE -135.8 -134.7 -135.5 -134.5 -134.9 -134.8 -134.3 -134.5 -135.2 -134.6 -134.5 -135.2 -134.6 -134.5 -135.2 -134.8 -133.3 -134.9 -134.1 -134.8 -132.2 -132.2 -133.3 -130.8 -132.7 -130.9 -132.0 -131.1131.1131.1130.5130.0130.0
8/19 -1 (3, 3) -1 (3, 1) -1 (3, 2) -1 (3, 3) -1 (3, 4) -1 (3, 2) -1 (3	8/15 -130.2 -130.8 -130.0 -130.1 -133.7 -133.2 -133.7 -132.8 -131.9 -131.8 -130.1 -128.8 -127.1 -128.8 -127.7 -126.3 -127.7 -126.3 -127.7 -126.3 -127.7	8/17 -134.0 -133.8 -133.3 -133.9 -132.7 -134.6 -135.5 -135.5 -135.5 -134.1 -133.9 -134.1 -133.9 -134.1 -133.1 -133.1 -133.1	8/18 -136.3 -135.7 -130.3 -135.9 -136.9 -135.1 -132.1 -130.9 -133.1 -135.5 -130.1 -130.8 -132.6 -133.9 -133.5 -130.0 -130.1 -130.8 -135.5 -130.0 -130.1 -130.8 -135.5	-134.9 -135.9 -136.7 -136.6 -136.1 -136.6 -136.2 -134.6 -134.5 -134.5 -134.5 -131.5	8/20 -132.8 -130.6 -133.8 -134.3 -134.6 -135.3 -135.1 -130.4 -135.6 -135.6 -136.6 -136.7	8/21 -135.2 -136.5 -135.3 -137.0 -136.1 -135.7 -135.0 -136.1 -136.0 -135.5 -135.3 -134.5 -135.3 -134.5 -135.3 -134.5 -135.3 -134.5 -135.3 -134.5 -135.3 -134.5 -135.3 -134.5 -135.3 -134.5 -135.3 -134.5 -135.3 -134.5 -135.3	8/22 -136.4 -136.3 -136.8 -136.5 -134.6 -136.3 -136.3 -136.0 -135.2 -134.5 -134.6 -134.4 -133.9 -132.5 -132.5 -132.8	8/23 -135.4 -135.7 -134.5 -135.4 -136.0 -135.7 -137.1 -136.9 -137.1 -136.3 -136.3 -134.2 -134.0 -133.7 -131.8 -132.4 -132.2 -131.0 -131.4	-130.8 -129.9 -130.8 -132.5 -133.4 -134.4 -134.6 -135.0 -133.3 -133.5 -133.5 -132.2 -131.3 -132.5 -130.3 -139.5 -130.4 -129.7	8/25 -134.9 -133.2 -134.5 -133.9 -133.9 -133.5 -134.3 -133.5 -134.3 -130.7 -129.8 -129.6 -129.7 -129.3 -128.6 -128.5 -128.5	-134.2 -132.9 -133.4 -134.5 -132.8 -134.7 -135.6 -136.4 -135.2 -135.3 -134.0 -130.5 -129.2 -127.5 -126.1 -125.9 -125.8 -125.8 -125.8	8/27 MONTHLY AVERAGE -135.8 -134.7 -135.5 -134.5 -134.9 -134.5 -134.5 -134.5 -134.5 -134.5 -132.5 -134.6 -134.5 -132.5 -134.6 -134.5 -132.5 -134.8 -132.8 -132.8 -132.8 -132.8 -132.8 -132.2 -132.2 -132.2 -132.2 -131.1131.1130.5 -130.0130.0130.5
8/19 -1 (3, 3 -1 (1, 1 -1 33, 8 -1 30, 7 -1 40, 9 -1 41, 9 -1 41, 9 -1 33, 2 -1 70, 1 -1 33, 2 -1 70, 9 -1 29, 9 -1 29, 9 -1 27, 9 -1 27, 9 -1 27, 9 -1 27, 8 -1 29, 8 -1 27, 9 -1 28, 1 -1 27, 8 -1 28, 8 -1 29, 9	8/15 -130.2 -130.8 -130.8 -130.1 -133.7 -133.7 -133.7 -133.7 -131.8 -131.9 -131.8 -128.9 -127.1 -128.8 -127.1 -126.3 -125.9 -127.7	8/17 -134.0 -133.8 -133.3 -133.9 -132.7 -134.7 -134.6 -135.5 -135.5 -135.5 -134.9 -134.1 -133.9 -134.1 -133.9 -134.1 -133.9 -133.4 -133.5 -133.7 -133.1	8/18 -136.3 -135.7 -139.3 -135.9 -136.9 -135.1 -132.1 -134.9 -133.1 -135.5 -134.1 -139.8 -132.6 -133.9 -133.5 -134.1 -133.9 -135.5 -134.8	-134.9 -135.9 -136.7 -135.7 -136.6 -136.1 -135.7 -136.2 -134.6 -134.5 -134.5 -131.3	8/20 -132.8 -130.6 -133.3 -134.6 -135.3 -135.1 -134.4 -135.0 -135.6 -136.1 -134.6 -134.7	8/21 -135.2 -136.5 -135.3 -137.0 -136.5 -135.1 -136.0 -136.1 -136.0 -135.5 -135.9 -135.2 -135.7 -135.3 -134.5 -135.3 -134.5 -135.3 -134.5 -135.3 -134.5 -135.3	8/22 -136.4 -136.3 -136.8 -136.5 -134.6 -136.3 -136.3 -136.0 -135.3 -136.0 -135.3 -138.0 -135.2 -134.5 -134.6 -134.6 -134.6 -134.5 -132.5 -132.5 -132.5	8/23 -135.4 -135.7 -134.5 -135.4 -136.0 -135.7 -137.1 -136.9 -137.1 -136.3 -136.3 -134.2 -134.0 -133.7 -131.8 -132.4 -132.4 -131.5 -131.0	-130.8 -129.9 -130.8 -137.5 -133.4 -134.4 -134.6 -135.0 -133.3 -133.2 -133.8 -133.5 -132.2 -131.3 -132.5 -130.3 -130.3	8/25 -134.9 -133.2 -134.5 -133.9 -133.5 -133.9 -133.5 -134.3 -130.7 -129.8 -129.6 -129.7 -129.3 -128.5 -128.5 -128.5	-134.2 -132.9 -133.4 -134.5 -132.8 -134.7 -135.6 -136.4 -135.2 -135.3 -134.0 -132.9 -132.4 -131.0 -130.5 -129.2 -127.5 -126.1 -125.9 -126.3 -125.8	8/27 MONTHLY AVERAGE -135.8 -134.7 -135.5 -134.5 -134.9 -134.8 -134.3 -134.5 -135.2 -134.6 -134.5 -135.2 -134.6 -134.5 -135.2 -134.8 -133.3 -134.9 -134.1 -134.8 -132.2 -132.2 -133.3 -130.8 -132.7 -130.9 -132.0 -131.1131.1131.1130.5130.0130.0

3/4 Reverse Blank

2

The 76 Hz average effective noise levels measured September versus GMT are presented in figure 4, and the individual daily 30 minute samples are listed in table 2. Altogether, 22 days of data were obtained. The average diurnal variation was 5 dB (-135 to -140 dBH), with the minimum occurring around local sunrise and the maximum occurring 1 to 2 hours before local sunset. Note that the maximum average levels measured during September were approximately the same as the minimum average levels measured in August (see figure 1).

Plotted in figure 5 are the 76 Hz effective noise levels measured during 26 September versus GMT. Here we see that the diurnal variation is of the order of 13 dB, with variations from -131 dBH (the highest level measured in September) to -144 dBH (the lowest level measured in September).

The 76 Hz average effective noise levels measured during October versus CFT are presented in figure 6, and the individual 30 minute samples are listed in table 3. Altogether, 28 days of data were obtained. The average diurnal variation was 5 dB (-136 to -141 dBH). Again the minimum and maximum occurred, respectively, around local sunrise and just before local sunset. Note that the October $\rm N_{eff}$ levels were very similar to those measured during September (figure 4).

Figure 7 presents the 76 Hz effective noise levels measured versus GMT during 14 October. The diurnal variation is of the order of 10 dE, with variations from -132 to -142 dBH.

The 76 Hz effective noise levels measured during 9-10 October versus GMT are presented in figure 8. It should be noted that there were severe thunderstorm warnings, as well as a tornado watch for the local area during that time. The effective noise measured from 0000 to 1200 GMT was very near the monthly average. However, from 1200 to 1900, the effective noise increased 20 dE! The diurnal variation was 23 dB (-118 to -141 dBH), which is the largest diurnal variation measured to date at any receiving location! The peak level (-118 dBH) was 7 dB higher than that measured during the four highest $N_{\rm eff}$ days in August (see figure 2). Perhaps the abnormally high levels measured from 1600 to 2100 are related to tornado activity.

Plotted in figure 9 are the 76 Hz average effective noise levels measured during November versus CMT; the individual 30 minute samples are listed in table 4. Altogether 22 days of data were obtained. The average diurnal variation was only 3 dB (-138 to -141 dBH), which is 2 to 3 dB less than that measured during August, September, and October. However, the maximum and minimum levels occurred at the same time as in previous months (i.e., around local sunrise and sunset).

The 76 Hz average effective noise levels measured during the fall of 1976 (i.e., September, October, and November) versus CMT are plotted in figure 10. Each data point is the average of 74 days worth of measurements. The average diurnal variation is approximately 5 dB (-136 to -141 dBH), with the minimum levels occurring around local sunrise and the maximum levels occurring 1 to 2 hours before local sunset.

It should be noted that from late November to mid January, a faulty heater motor bearing (located in the NUSC building at Fishers Island, which houses the ELF

Table 2. September 1976 Connecticut 76 Hz Eff

GMT	9/8	9/10	9/11	9/12	9/13	9/14	9/15	9/16	9/17	9/18	9/19	9/20	9/21	9/1
	-137.2	-135.6	-138.3	-138.7	-134.0	-135.5	-134.2	-136.8	-135.6	-135.4	-137.7	-136.8	-135.0	-13
0030	-137.0	-136.1	-139.6	-139.1	-134.8	-136.4	-134.5	-136.2	-136.1	-135.0	-137.1	-136.6	-134.6	-13
0100	-137.5	-136.4	-139.8	-138.4	-135.5	-137.3	-134.6	-135.0	-138.5	-135.1	-137.0	-138.0	-135.3	-10
0130	-137.4	-136.6	-138.5	-140.1	-135.3	-137.8	-134.6	-137.9	-139.0	-136.2	-137.1	-138.4	-135.2	-14
0200	-137.7	-136.9	-137.9	-140.3	-135.0	-138.0	-133.8	-138.1	-138.4	-136.9	-136.7	-137.8	-134.6	-13
0230	-138.1	-137.2	-139.0	-139.5	-134.8	-139.0	-134.8	-137.6	-138.3	-136.6	-136.2	-137.6	-135.6	-14
0300	-138.1	-137.7	-139.5	-140.0	-135.4	-138.2	-134.9	-137.0	-139.9	-137.2	-136.6	-138.5	-136.3	-1-
0330	-138.2	-138.0	-140.3	-139.9	-134.7	-139.0	-136.3	-139.1	-139.4	-137.1	-138.2	-138.1	-135.6	-14
0400	-137.4	-137.9	-140.0	-139.6	-134.7	-138.5	-135.7	-139.5	-139.1	-137.8	-137.6	-138.7	-136.4	-14
0430	-138.7.	-138.0	-140.3	-139.2	-135.0	-139.1	-136.9	-139.4	-139.3	-138.7	-137.0	-138.8	-137.5	-14
0500	-139.6	-138.8	-140.2	-139.8	-136.8	-137.9	-137.2	-139.7	-139.3	-138.7	-136.6	-140.6	-138.1	-10
0530	-138.7	-138.7	-140.7	-139.6	-136.7	-138.5	-138.0	-140.1	-139.3	-139.1	-136.4	-138.4	-138.2	-14
0600	-139.0	-137.7	-141.0	-139.0	-136.3	-139.6	-138.0	-140.2	-138.7	-138.5	-136.5	-140.6	-139.3	-14
0630	-139.5	-137.0	-142.2	-141.0	-137.4	-140.3	-138.6	-139.6	-139.7	-139.9	-135.7	-140.1	-140.6	-1-1
0700	-139.3	-138.0	-141.9	-140.6	-137.5	-139.5	-140.4	-138.7	-140.4	-139.3	-134,4	-141.4	-140.7	-14
0730	-139.3	-138.1	-141.3	-140.0	-137.8	-140.5	-140.2	-139.7	-139.8	-139.3	-133.9	-142.5	-140.6	
0800	-140.5	-137.7	-141.7	-140.1	-138.6	-140.2	-140.2	-140.3	-139.3	-139.4	-132.1	-141.9	-139.8	-14
0830	-139.6	-137.2	-142.0	-140.3	-139.4	-139.3	-139.7	-139.7	-140.0	-139.1	-132.5	-140.6	-140.4	-14
0900	-139.3	-137.4	-141.3	-140.7	-139.4	-138.4	-139.5	-139.2	-139.1	-138.3	-134.2	-141.3	-140 5	-712
0930	-140.3	-136.3	-140.9	-139.9	-139.2	-140.2	-139.2	-140.1	-138.4	-139.1	-135.6	-142.2	-140.7	-14
1000	-140.1	-135.7	-140.9	-139.9	-139.6	-140.5	-139.5	-140.2	-138.8	-139.6	-134.8	-141.9	-140.2	-13
1030	-139.5	-135.2	-141.2	-138.8	-139.1	-139.2	-139.9	-138.7	-138.6	-139.4	-133.7	-140.5	-140.4	-1 1
1100	-138.2	-135.7	-141.1	-138.3	-138.9	-138.6	-140.2	-138.9	-139.0	-139.2	-134.7	-141.9	-139.8	-10
1130	-138.9	-136.2	-139.5	-139.4	-138.0	-139.0	-140.1	-140.4	-138.7	-139.5	-134.7	-141.8	-139.4	-13
GMT	9/7	9/10	9/11	9/12	9/13	9/14	9/15	9/16	9/17	9/18	9/19	9/20	9/21	97
136.11		37.10	37.17	37.12	37.10		37.20							
1200		-135.6	-138.0	-137.4	-137.5	-138.6	-139.2	-140.6	-138.3	-139.0	-134.4	-141.0	-138.6	-13
1230		-135.7	-138.8	-137.8	-136.5	-138.7		-139.4	-137.9	-139.3	-135.0	-140.5	-139.5	-13
1300			-136.8	-136.4	-134.6	-137.0		-138.8	-137.2	-139.1	-135.7	-138.6	-138.7	-13
1330	_		-136.0	-136.9	-135.8	-138.6	-139.0	-139.3	-138.0	-138.8	-136.1	-140.4	-139.1	-13
1400		-135.5	-138.0	-136.2	-136.9	-139.1	-139.1	-139.4	-136.8	-138.7	-136.2	-140.3	-139.0	-13
1430		-136.5	-137.6	-136.4	-137.0	-137.3	-139.0	-138.0	-136.1	-138.5	-137.1	-139.7	-138.9	-13
1500		-135.8	-137.3	-136.6	-136.3	-134.7	-138.3	-137.1	-135.6	-138.9	-137.4	-134.8	-138.4	-17
1530		-136.3	-137.0	-136.3	-135.9	-136.2	-137.8							-13
								-138.0	-136.1	-138.5	-137.0	-135.3	-136.4	
1600	-135.6	-134.7	-135.7	-135.7	-136.1	-138.2	-138.8	-138.2	-135.5	-138.1	-136.7	-135.7	-137.7	-13
1630	-135.6 -135.7	-134.7	-135.7 -136.4	-135.7 -135.2	-136.1 -136.3	-138.2 -138.4	-138.8 -138.5	-138.2 -137.7	-135.5 -136.5	-138.1 -138.7	-136.7 -136.3	-135.7 -134.8	-137.7 -138.9	-13 -13
1630 1700	-135.6 -135.7 -135.9	-134.7 -135.8	-135.7 -136.4 -136.4	-135.7 -135.2 -135.8	-136.1 -136.3 -137.1	-138.2 -138.4 -137.0	-138.8 -138.5 -137.6	-138.2 -137.7 -138.2	-135.5 -136.5 -135.8	-138.1 -138.7 -138.5	-136.7 -136.3 -137.2	-135.7 -134.8 -135.0	-137.7 -138.9 -138.9	-13 -13 -13
1630 1700 1730	-135.6 -135.7 -135.9 -135.6	-134.7 -135.8 -133.9	-135.7 -136.4 -136.4 -136.9	-135.7 -135.2 -135.8 -136.0	-136.1 -136.3 -137.1 -137.1	-138.2 -138.4 -137.0 -138.3	-138.8 -138.5 -137.6 -138.1	-138.2 -137.7 -138.2 -138.1	-135.5 -136.5 -135.8 -136.0	-138.1 -138.7 -138.5 -137.4	-136.7 -136.3 -137.2 -137.4	-135.7 -134.8 -135.0 -133.8	-137.7 -138.9 -138.9 -138.0	-13 -13 -13 -13
1630 1700 1730 1800	-135.6 -135.7 -135.9 -135.6 -135.0	-134.7 -135.8 -133.9 -133.2	-135.7 -136.4 -136.4 -136.9 -136.8	-135.7 -135.2 -135.8 -136.0 -135.9	-136.1 -136.3 -137.1 -137.1 -136.5	-138.2 -138.4 -137.0 -138.3 -137.6	-138.8 -138.5 -137.6 -138.1 -139.0	-138.2 -137.7 -138.2 -138.1 -137.6	-135.5 -136.5 -135.8 -136.0 -133.8	-138.1 -138.7 -138.5 -137.4 -136.8	-136.7 -136.3 -137.2 -137.4 -136.6	-135.7 -134.8 -135.0 -133.8 -133.5	-137.7 -138.9 -138.9 -138.0 -138.0	-13 -13 -13 -13
1630 1700 1730 1800 1830	-135.6 -135.7 -135.9 -135.6 -135.0 -135.4	-134.7 -135.8 -133.9 -133.2 -130.5	-135.7 -136.4 -136.4 -136.9 -136.8 -136.6	-135.7 -135.2 -135.8 -136.0 -135.9 -135.4	-136.1 -136.3 -137.1 -137.1 -136.5 -133.3	-138.2 -138.4 -137.0 -138.3 -137.6 -136.8	-138.8 -138.5 -137.6 -138.1 -139.0 -137.5	-138.2 -137.7 -138.2 -138.1 -137.6 -136.6	-135.5 -136.5 -135.8 -136.0 -133.8 -133.9	-138.1 -138.7 -138.5 -137.4 -136.8 -135.3	-136.7 -136.3 -137.2 -137.4 -136.6 -135.8	-135.7 -134.8 -135.0 -133.8 -133.5 -132.1	-137.7 -138.9 -138.9 -138.0 -138.0 -138.2	-13 -13 -13 -13 -13 -13
1630 1700 1730 1800 1830 1900	-135.6 -135.7 -135.9 -135.6 -135.0 -135.4 -135.5	-134.7 -135.8 -133.9 -133.2 -130.5 -130.1	-135.7 -136.4 -136.4 -136.9 -136.8 -136.6 -137.0	-135.7 -135.2 -135.8 -136.0 -135.9 -135.4 -136.9	-136.1 -136.3 -137.1 -137.1 -136.5 -133.3 -132.7	-138.2 -138.4 -137.0 -138.3 -137.6 -136.8 -137.3	-138.8 -138.5 -137.6 -138.1 -139.0 -137.5 -136.2	-138.2 -137.7 -138.2 -138.1 -137.6 -136.6 -134.8	-135.5 -136.5 -135.8 -136.0 -133.8 -133.9 -134.1	-138.1 -138.7 -138.5 -137.4 -136.8 -135.3 -135.7	-136.7 -136.3 -137.2 -137.4 -136.6 -135.8 -135.7	-135.7 -134.8 -135.0 -133.8 -133.5 -132.1 -132.7	-137.7 -138.9 -138.9 -138.0 -138.0 -138.2 -138.0	-13 -13 -13 -13 -13 -13
1630 1700 1730 1800 1830 1900 1930	-135.6 -135.7 -135.9 -135.6 -135.0 -135.4 -135.5 -135.3	-134.7 -135.8 -133.9 -133.2 -130.5 -130.1 -132.8	-135.7 -136.4 -136.4 -136.9 -136.8 -136.6 -137.0 -137.2	-135.7 -135.2 -135.8 -136.0 -135.9 -135.4 -136.9 -135.6	-136.1 -136.3 -137.1 -137.1 -136.5 -133.3 -132.7 -137.7	-138.2 -138.4 -137.0 -138.3 -137.6 -136.8 -137.3 -136.6	-138.8 -138.5 -137.6 -138.1 -139.0 -137.5 -136.2 -136.0	-138.2 -137.7 -138.2 -138.1 -137.6 -136.6 -134.8 -136.3	-135.5 -136.5 -135.8 -136.0 -133.8 -133.9 -134.1 -134.0	-138.1 -138.7 -138.5 -137.4 -136.8 -135.3 -135.7 -135.6	-136.7 -136.3 -137.2 -137.4 -136.6 -135.8 -135.7 -134.2	-135.7 -134.8 -135.0 -133.8 -133.5 -132.1 -132.7 -133.1	-137.7 -138.9 -138.9 -138.0 -138.0 -138.2 -138.0 -137.1	-13 -13 -13 -13 -13 -13 -13 -13
1630 1700 1730 1800 1830 1900 1930 2000	-135.6 -135.7 -135.9 -135.6 -135.0 -135.4 -135.5 -135.3 -134.6	-134.7 -135.8 -133.9 -133.2 -130.5 -130.1 -132.8 -134.7	-135.7 -136.4 -136.4 -136.9 -136.8 -136.6 -137.0 -137.2 -136.0	-135.7 -135.2 -135.8 -136.0 -135.9 -135.4 -136.9 -135.6 -135.8	-136.1 -136.3 -137.1 -137.1 -136.5 -133.3 -132.7 -137.7 -136.8	-138.2 -138.4 -137.0 -138.3 -137.6 -136.8 -137.3 -136.6 -135.8	-138.8 -138.5 -137.6 -138.1 -139.0 -137.5 -136.2 -136.0 -136.5	-138.2 -137.7 -138.2 -138.1 -137.6 -136.6 -134.8 -136.3 -135.3	-135.5 -136.5 -135.8 -136.0 -133.8 -133.9 -134.1 -134.0 -133.7	-138.1 -138.7 -138.5 -137.4 -136.8 -135.3 -135.7 -135.6 -134.7	-136.7 -136.3 -137.2 -137.4 -136.6 -135.8 -135.7 -134.2 -134.8	-135.7 -134.8 -135.0 -133.8 -133.5 -132.1 -132.7 -133.1 -132.3	-137.7 -138.9 -138.9 -138.0 -138.0 -138.2 -138.0 -137.1 -137.2	-13 -13 -13 -13 -13 -13 -13 -13
1630 1700 1730 1800 1830 1900 1930 2000 2030	-135.6 -135.7 -135.9 -135.6 -135.0 -135.4 -135.5 -135.3 -134.6 -135.0	-134.7 -135.8 -133.9 -133.2 -130.5 -130.1 -132.8 -134.7 -135.5	-135.7 -136.4 -136.4 -136.9 -136.8 -136.6 -137.0 -137.2 -136.0 -135.9	-135.7 -135.2 -135.8 -136.0 -135.9 -135.4 -136.9 -135.6 -135.8 -136.1	-136.1 -136.3 -137.1 -137.1 -136.5 -133.3 -132.7 -137.7 -136.8 -136.1	-138.2 -138.4 -137.0 -138.3 -137.6 -136.8 -137.3 -136.6 -135.8 -136.0	-138.8 -138.5 -137.6 -138.1 -139.0 -137.5 -136.2 -136.0 -136.5 -137.1	-138.2 -137.7 -138.2 -138.1 -137.6 -136.6 -134.8 -136.3 -135.3 -135.2	-135.5 -136.5 -135.8 -136.0 -133.8 -134.1 -134.0 -133.7 -133.1	-138.1 -138.7 -138.5 -137.4 -136.8 -135.3 -135.7 -135.6 -134.7 -135.0	-136.7 -136.3 -137.2 -137.4 -136.6 -135.8 -135.7 -134.2 -134.8 -134.3	-135.7 -134.8 -135.0 -133.8 -133.5 -132.1 -132.7 -133.1 -132.3 -132.2	-137.7 -138.9 -138.9 -138.0 -138.0 -138.2 -138.0 -137.1 -137.2 -137.8	-13 -13 -13 -13 -13 -13 -13 -13 -13
1630 1700 1730 1800 1830 1900 1930 2000 2030 2100	-135.6 -135.7 -135.9 -135.6 -135.0 -135.4 -135.5 -135.3 -134.6 -135.0 -134.4	-134.7 -135.8 -133.9 -130.5 -130.1 -132.8 -134.7 -135.5 -135.9	-135.7 -136.4 -136.4 -136.9 -136.8 -137.0 -137.2 -136.0 -137.2 -136.0	-135.7 -135.2 -135.8 -136.0 -135.9 -135.4 -136.9 -135.6 -135.8 -136.1 -135.8	-136.1 -136.3 -137.1 -137.1 -136.5 -133.3 -132.7 -137.7 -136.8 -136.1 -136.2	-138.2 -138.4 -137.0 -138.3 -137.6 -136.8 -137.3 -136.6 -135.8 -136.0 -136.2	-138.8 -138.5 -137.6 -138.1 -139.0 -137.5 -136.2 -136.0 -136.5 -137.1 -136.2	-138.2 -137.7 -138.2 -138.1 -137.6 -136.6 -134.8 -136.3 -135.3 -135.2 -135.3	-135.5 -136.5 -135.8 -136.0 -133.8 -133.9 -134.1 -134.0 -133.7 -133.1 -132.7	-138.1 -138.7 -138.5 -137.4 -136.8 -135.3 -135.7 -135.6 -134.7 -135.0 -134.0	-136.7 -136.3 -137.2 -137.4 -136.6 -135.8 -135.7 -134.2 -134.8 -134.3 -134.3	-135.7 -134.8 -135.0 -133.8 -133.5 -132.1 -132.7 -133.1 -132.3 -132.2 -132.6	-137.7 -138.9 -138.0 -138.0 -138.0 -138.2 -138.0 -137.1 -137.2 -137.8 -137.7	-13 -13 -13 -13 -13 -13 -13 -13 -13 -13
1630 1700 1730 1800 1830 1900 1930 2000 2030 2100 2130	-135.6 -135.7 -135.9 -135.6 -135.0 -135.5 -135.3 -134.6 -135.0 -134.4 -134.6	-134.7 -135.8 -133.9 -130.5 -130.1 -132.8 -134.7 -135.5 -135.9 -136.4	-135.7 -136.4 -136.4 -136.9 -136.8 -137.0 -137.2 -136.0 -135.9 -137.3 -136.5	-135.7 -135.2 -135.8 -136.0 -135.9 -135.4 -136.9 -135.6 -135.8 -136.1 -135.8	-136.1 -136.3 -137.1 -137.1 -136.5 -133.3 -132.7 -137.7 -136.8 -136.1 -136.2 -135.4	-138.2 -138.4 -137.0 -138.3 -137.6 -136.8 -137.3 -136.6 -135.8 -136.0 -136.2 -136.0	-138.8 -138.5 -137.6 -138.1 -139.0 -137.5 -136.2 -136.0 -136.5 -137.1 -136.2 -136.4	-138.2 -137.7 -138.2 -138.1 -137.6 -136.6 -134.8 -136.3 -135.3 -135.3 -135.3	-135.5 -136.5 -135.8 -136.0 -133.8 -133.9 -134.1 -134.0 -133.7 -133.1 -132.7 -133.5	-138.1 -138.7 -138.5 -137.4 -136.8 -135.3 -135.7 -135.6 -134.7 -135.0 -134.7	-136.7 -136.3 -137.2 -137.4 -136.6 -135.8 -135.7 -134.2 -134.8 -134.3 -134.2 -134.1	-135.7 -134.8 -135.0 -133.8 -133.5 -132.1 -132.7 -133.1 -132.3 -132.2 -132.6 -134.8	-137.7 -138.9 -138.9 -138.0 -138.0 -138.2 -138.0 -137.1 -137.2 -137.8 -137.7 -137.3	-13 -13 -13 -13 -13 -13 -13 -13 -13 -13
1630 1700 1730 1800 1830 1900 1930 2000 2030 2100 2130 2200	-135.6 -135.7 -135.9 -135.6 -135.0 -135.4 -135.5 -135.3 -134.6 -135.0 -134.4 -136.6	-134.7 -135.8 -133.9 -130.5 -130.1 -132.8 -134.7 -135.5 -135.9 -136.4 -135.1	-135.7 -136.4 -136.4 -136.9 -136.8 -136.6 -137.0 -137.2 -136.0 -137.3 -136.5 -136.3	-135.7 -135.2 -135.8 -136.0 -135.9 -135.4 -136.9 -135.6 -135.8 -136.1 -135.8 -134.6 -133.6	-136.1 -136.3 -137.1 -137.1 -136.5 -133.3 -132.7 -137.7 -136.8 -136.1 -136.2 -135.4 -134.5	-138.2 -138.4 -137.0 -138.3 -137.6 -136.8 -137.3 -136.6 -135.8 -136.0 -136.0 -136.0	-138.8 -138.5 -137.6 -138.1 -139.0 -137.5 -136.2 -136.0 -136.5 -137.1 -136.2 -136.4 -136.5	-138.2 -137.7 -138.2 -138.1 -137.6 -136.6 -134.8 -136.3 -135.3 -135.3 -135.3 -133.6 -133.9	-135.5 -136.5 -135.8 -136.0 -133.8 -133.9 -134.1 -134.0 -133.7 -133.1 -132.7 -133.5 -133.2	-138.1 -138.7 -138.5 -137.4 -136.8 -135.3 -135.7 -135.6 -134.7 -135.0 -134.7 -135.3	-136.7 -136.3 -137.2 -137.4 -136.6 -135.8 -135.7 -134.2 -134.8 -134.3 -134.3 -134.1 -134.9	-135.7 -134.8 -135.0 -133.8 -133.5 -132.1 -132.7 -133.1 -132.3 -132.2 -132.6 -134.8 -134.3	-137.7 -138.9 -138.9 -138.0 -138.0 -138.2 -138.0 -137.1 -137.2 -137.8 -137.7 -137.3 -136.4	-13 -13 -13 -13 -13 -13 -13 -13 -13 -13
1630 1700 1730 1800 1830 1900 1930 2000 2130 2130 2200 2230	-135.6 -135.7 -135.9 -135.6 -135.0 -135.4 -135.5 -135.3 -134.6 -135.0 -134.6 -136.1 -135.9	-134.7 -135.8 -133.9 -133.2 -130.5 -130.1 -132.8 -134.7 -135.5 -136.4 -135.1 -137.0	-135.7 -136.4 -136.9 -136.8 -136.6 -137.0 -137.2 -136.0 -135.9 -137.3 -136.3 -137.0	-135.7 -135.2 -135.8 -136.0 -135.9 -135.4 -136.9 -135.6 -135.8 -136.1 -135.8 -134.6 -134.6	-136.1 -136.3 -137.1 -137.1 -136.5 -133.3 -132.7 -137.7 -136.8 -136.1 -136.2 -135.4 -134.5 -135.0	-138.2 -138.4 -137.6 -136.8 -137.3 -136.6 -135.8 -136.0 -136.2 -136.0 -134.3 -134.4	-138.8 -138.5 -137.6 -138.1 -139.0 -137.5 -136.2 -136.5 -137.1 -136.2 -136.4 -136.5 -135.2	-138.2 -137.7 -138.2 -138.1 -137.6 -136.6 -134.8 -135.3 -135.3 -135.3 -135.2 -135.3 -133.9 -133.9	-135.5 -136.5 -135.8 -136.0 -133.8 -133.9 -134.1 -134.0 -133.7 -133.1 -132.7 -133.5 -133.5 -133.7	-138.1 -138.7 -138.5 -137.4 -136.8 -135.3 -135.7 -135.6 -134.7 -135.0 -134.7 -135.3 -135.3	-136.7 -136.3 -137.2 -137.4 -136.6 -135.8 -135.7 -134.2 -134.8 -134.3 -134.2 -134.2 -134.2	-135.7 -134.8 -135.0 -133.8 -132.1 -132.7 -132.3 -132.2 -132.6 -134.8 -134.3 -134.7	-137.7 -138.9 -138.0 -138.0 -138.0 -138.0 -137.1 -137.2 -137.8 -137.7 -137.3 -136.4 -137.2	-13 -13 -13 -13 -13 -13 -13 -13 -13 -13
1630 1700 1730 1800 1830 1900 1930 2000 2030 2100 2130 2200	-135.6 -135.7 -135.9 -135.6 -135.0 -135.4 -135.5 -135.3 -134.6 -135.0 -134.4 -136.6	-134.7 -135.8 -133.9 -130.5 -130.1 -132.8 -134.7 -135.5 -135.9 -136.4 -135.1	-135.7 -136.4 -136.4 -136.9 -136.8 -136.6 -137.0 -137.2 -136.0 -137.3 -136.5 -136.3	-135.7 -135.2 -135.8 -136.0 -135.9 -135.4 -136.9 -135.6 -135.8 -136.1 -135.8 -134.6 -133.6	-136.1 -136.3 -137.1 -137.1 -136.5 -133.3 -132.7 -137.7 -136.8 -136.1 -136.2 -135.4 -134.5	-138.2 -138.4 -137.0 -138.3 -137.6 -136.8 -137.3 -136.6 -135.8 -136.0 -136.0 -136.0	-138.8 -138.5 -137.6 -138.1 -139.0 -137.5 -136.2 -136.0 -136.5 -137.1 -136.2 -136.4 -136.5	-138.2 -137.7 -138.2 -138.1 -137.6 -136.6 -134.8 -136.3 -135.3 -135.3 -135.3 -133.6 -133.9	-135.5 -136.5 -135.8 -136.0 -133.8 -133.9 -134.1 -134.0 -133.7 -133.1 -132.7 -133.5 -133.2	-138.1 -138.7 -138.5 -137.4 -136.8 -135.3 -135.7 -135.6 -134.7 -135.0 -134.7 -135.3	-136.7 -136.3 -137.2 -137.4 -136.6 -135.8 -135.7 -134.2 -134.8 -134.3 -134.3 -134.1 -134.9	-135.7 -134.8 -135.0 -133.8 -133.5 -132.1 -132.7 -133.1 -132.3 -132.2 -132.6 -134.8 -134.3	-137.7 -138.9 -138.9 -138.0 -138.0 -138.2 -138.0 -137.1 -137.2 -137.8 -137.7 -137.3 -136.4	-13 -13 -13 -13 -13 -13 -13 -13 -13 -13

BEST AVAILABLE COPY

September 1976 Connecticut 76 Hz Effective Noise Levels (dBH)

														MONTHLY
9/17	9/18	9/19	9/20	9/21	9/22	9/23	9/24	9/25	9/26	9/27	9/28	9/29	9/30	AVERAGE
-135.6	-135.4	-137.7	-136.8	-135.0	-137.6	-137.5	-136.2	-137.8	-137.7	-131.8	-136.4	-138.1	-136.1	-136.3
-136.1	-135.0	-137.1	-136.6	-134.6	-138.3	-137.4	-135.7	-137.9	-136.9	-131.2	-136.4	-138.5	-136.3	-136.4
-138.5	-135.1	-137.0	-138.0	-135.3	-138.5	-138.1	-135.9	-137.6	-138.3	-132.6	-137.7	-137.9	-136.8	-136.8
-139.0	-136.2	-137.1	-138.4	-135.2	-138.8	-138.7	-136.5	-138.3	-138.0	-134.3	-138.9	-138.6	-137.5	-137.4
-138.4	-136.9	-136.7	-137.8	-134.6	-139.0	-138.3	-137.3	-140.0	-138.6	-135.6	-138.4	-139.6	-139.1	-137.6
-138.3	-136.6	-136.2	-137.6	-135.6	-140.7	-139.0	-137.3	-139.9	-138.2		-138.0	-140.7	-139.0	-137.9
-139.9	-137.2	-136.6	-138.5	-136.3	-140.9	-140.2	-137.4	-139.5	-139.2		-138.0	-139.8	-138.6	-138.2
-139.4	-137.1	-138.2	-138.1	-135.6	-140.1	-140.1	-138.1	-139.0	-140.6		-138.0	-139.1	-138.4	-138.4
-139.1	-137.8	-137.6	-138.7	-136.4	-140.4	-140.2	-139.4	-139.6	-141.1		-137.3	-140.1	-138.9	-138.5
-139.3	-138.7	-137.0	-138.8	-137.6	-141.7	-139.9	-139.8	-139.5	-140.5		-137.2	-140.4	-139.2	-138.8
-139.3	-138.7	-136.6	-140.6	-138.1	-141.8	-140.1	-139.1	-139.9	-141.0		-137.6	-139.9	-139.4	-139.1
-139.3	-139.1	-136.4	-138.4	-138.2	-140.9	-140.3	-140.1	-139.1	-141.6		-138.8	-139.7	-138.8	-139.1
-138.7	-138.5	-136.5	-140.6	-139.3	-140.4	-139.8	-141.6	-139.5	-141.8		-139.5	-141.2	-139.4	-139.4
-139.7	-139.9	-135.7	-140.1	-140.6	-140.9	-140.0	-142.4	-139.7	-142.0		-139.4	-141.9	-138.7	-139.8
-140.4	-139.3	-134.4	-141.4	-140.7	-142.0	-141.2	-140.8	-140.2	-141.3		-138.3	-140.6	-138.6	-139.7
-139.8	-139.3	-133.9	-142.5	-140.6	-141.9	-140.9	-140.4	-139.6	-142.6		-138.9	-140.4	-138.0	-139.9
-139.3	-139.4	-132.1	-141.9	-139.8	-140.7	-140.7	-140.9	-139.5	-142.2		-139.6	-140.9	-138.2	-139.9
-140.0	-139.1	-132.5	-140.6	-140.4	-141.6	-140.6	-141.4	-141.5	-141.3		-139.5	-141.3	-139.3	-139.9
-139.1	-138.3	-134.2	-141.3	-140.5	-142.1	-141.7	-140.9	-141.9	-142.2		-138.0	-141.4	-139.9	-139.8
-138.4	-139.1	-135.6	-142.2	-140.7	-141.9	-141.9	-140.5	-142.3	-142.7		-138.4	-140.4	-139.8	-140.0
-138.8	-139.6	-134.8	-141.9	-140.2	-139.8	-141.2	-139.8	-140.8	-143.7		-139.0	-139.7	-138.5	-139.7
-138.6	-139.4	-133.7	-140.5	-140.4	-140.1	-139.4	-140.1	-140.8	-143.3		-139.1	-140.7	-138.4	-139.4
-139.0	-139.2	-134.7	-141.9	-139.8	-140.2	-140.0	-139.9	-140.3	-141.0		-139.5	-140.6	-139.0	-139.3
-138.7	-139.5	-134.7	-141.8	-139.4	-139.5	-140.6	-138.3	-139.9	-139.3	-139.0	-138.6	-139.8	-139.1	-139.1
														MONTHLY
9/17	9/18	9/19	9/20-	9/21	9/22	9/23	9/24	9/25	9/26	9/27	9/28	9/29	9/30	AVERAGE
														UATIONSE
-138.3	-139.0	-134.4	-141.0	-138.6	-138.8	-139.7	-138.8	-139.1	-141.0	-138.6	-138.8	-138.4	-138.6	-138.6
-137.9	-139.3	-135.0	-140.5	-139.5	-139.3	-138.8	-139.1	-138.7	-140.0	-138.8	-138.8	-138.5	-138.0	-138.4
-137.2	-139.1	-135.7	-138.6	-138.7	-137.6	-140.1	-139.2	-138.5	-138.9	-138.3	-136.8	-138.5	-137.6	-137.8
-138.0	-138.8	-136.1	-140.4	-139.1	-138.6	-137.3	-139.1	-138.8	-138.8	-137.9	-137.4	-138.3	-135.3	-137.9
-136.8	-138.7	-136.2	-140.3	-139.0	-137.6	-138.9	-137.2	-138.6	-138.3	-137.7	-137.6	-137.7		-137.9
-136.1	-138.5	-137.1	-139.7	-138.9	-138.0	-137.4	-137.6	-137.9	-136.5	-136.9	-137.8	-137.1	-137.4	-137.5
-135.6	-138.9	-137.4	-134.8	-138.4	-137.9	-138.1	-139.1	-136.8	-136.6	-137.0	-138.3	-136.5	-137.0	-137.0
-136.1	-138.5	-137.0	-135.3	-136.4	-138.1	-137.7	-138.3	-136.9	-135.4	-136.9	-138.3	-137.3	-136.5	-136.9
-135.5	-138.1	-136.7	-135.7	-137.7	-137.3	-136.7	-137.9	-136.8	-136.6	-136.8	-137.7	-137.5	-135.5	-136.7
-136.5	-138.7	-136.3	-134.8	-138.9	-136.7	-136.9	-138.5	-137.4	-136.6	-136.2	-137.7	-136.7	-135.3	-136.8
-135.8	-138.5	-137.2	-135.0	-138.9	-136.7	-136.8	-138.7	-136.6	-135.6	-135.6	-136.9	-136.5	-134.8	-136.4
-136.0	-137.4	-137.4	-133.8	-138.0	-136.4	-136.4	-137.8	-135.0	-135.9	-133.9	-136.2	-135.2	-133.5	-136.2
-133.8	-136.8	-136.6	-133.5	-138.0	-136.5	-136.1	-137.0	-135.3	-135.5	-134.5		-134.7	-132.5	-135.8
-133.9	-135.3	-135.8	-132.1	-138.2	-136.2	-135.9	-137.2	-134.6	-134.7	-134.6	-136.1	-133.5	-132.2	-135.3
-134.1	-135.7	-135.7	-132.7	-138.0	-136.8	-135.3	-137.1	-135.2	-133.3	-134.5	-135.7	-133.6		-135.1
-134.0	-135.6	-134.2	-133.1	-137.1	-136.3	-135.5	-136.8	-135.8	-133.0	-134.4	-136.1	-134.0		-135.3
-133.7	-134.7	-134.8	-132.3	-137.2	-136.6	-135.0	-136.0	-136.0	-133.1	-135.0	-136.5	-134.1		-135.2
-133.1	-135.0	-134.3	-132.2	-137.8	-136.1	-134.6	-135.6	-134.5	-133.4	-134.9	-134.7	-133.3	-132.1	-134.9
-132.7	-134.0	-134.2	-132.6	-137.7	-136.2	-133.0	-135.5	-135.1	`-132.9	-134.7	-135.1	-133.7	-133.9	-134.8
-133.5	-134.7	-134.1	-134.8	-137.3	-136.4	-133.9	-135.3	-135.4	-132.6	-133.6	-136.3	-134.7	-133.9	-134.9
-133.2	-135.3	-134.9	-134.3	-136.4	-135.9	-134.2	-136.2	-135.1	-132.7	-133.1	-137.0	-134.6	-134.2	-134.8
-133.7	-135.1	-135.2	-134.7	-137.2	-135.7	-134.4	-136.5	-135.2	-130.8	-133.8	-137.2	-135.5	-134.4	-135.1
-134.3	-136.0	-135.8	-134.8	-138.0	-136.7	-134.9	-136.6	-136.3	-131.5	-135.3	-136.2	-135.1	-135.8	-135.5
-135.9	-136.9	-136.2	-134.4	-137.2	-137.3	-135.4	-137.0	-136.6	-131.9	-136.8	-137.0	-136.1	-137.4	-136.0



Table 3. October 1976 Connecticut 76 H

GMT	10/1	10/2	10/3	10/5	10/6	10/8	10/9	10/10	10/11	10/12	10/14	10/15	10/16	10/17	10/18	
0000	-137.2	-137.1	-139.2	-136.0	-136.7	-138.6	-137.7	-133.7	-139.9	-138.2	-140.0	-138.4	-137.3	-137.4	-140.2	
0030	-137.1	-137.6	-139.6	-135.6	-136.6	-138.7	-138.5	-132.3	-139.0	-139.5	-140.1	-136.9	-137.8	-137.8	-141.1	1
0100	-137.6	-137.8	-140.9	-134.7	-137.2	-138.2	-139.1	-130.5	-138.4	-140.4	-139.8	-137.4	-139.1	-138.0	-141.5	- (
0130	-138.0	-139.0	-140.5	-135.4	-137.1	-138.8	-138.9	-130.8	-139.6	-140.6	-139.8	-137.2	-139.1	-138.6	-141.5	- (
0200	-139.1	-139.6	-140.9	-136.7	-138.6	-139.2	-137.9	-132.6	-139.4	-140.0	-140.3	-137.1	-139.3	-139.5	-141.0	1
0230	-138.9	-140.6	-141.0	-137.1	-140.3	-139.7	-138.0	-134.3	-139.1	-140.5	-139.1	-137.8	-138.6	-139.2	-140.1	6
0300	-138.3	-139.9	-140.0	-137.5	-137.5	-139.4	-139.1	-134.6	-138.8	-141.7	-136.4	-139.5	-139.0	-139.3	-140.5	
0330	-139.4	-140.8	-141.4	-138.7	-139.1	-139.1	-139.3	-135.3	-138.9	-141.6	-139.0	-139.8	-139.3	-139.3	-141.4	. (
0400	-140.4	-141.4	-141.4	-139.5	-138.3	-140.0	-139.5	-135.6	-139.3	-141.4	-140.1	-138.8	-137.4	-139.3	-141.8	- 6
0430	-140.7	-142.1	-141.5	-139.5	-139.4	-140.1	-139.4	-136.3	-139.7	-140.5	-140.4	-138.2	-136.0	-140.4	-142.3	
0500	-139.4	-141.6	-140.6	-139.6	-139.6	-140.1	-139.1	-136.7	-140.0	-140.8	-140.1	-139.4	-136.1	-140.6	-141.2	0
0530	-140.1	-140.9	-140.7	-138.3	-139.9	-138.9	-140.0	-136.0	-138.9	-141.5	-139.6	-139.3	-137.4	-140.8	-141.5	0
0600	-140.7	-141.9	-142.2	-139.3	-140.6	-139.6	-140.8	-137.0	-139.4	-141.0	-137.1	-139.3	-138.1	-140.6	-141.5	- 0
0630	-139.9	-141.7	-141.8	-139.9	-140.2	-140.9	-139.8	-137.3	-140.0	-141.0	-136.5	-139.2	-138.0	-140.1	-140.0	0
0700	-138.6	-141.1	-140.2	-139.5	-141.2	-140.7	-140.3	-137.0	-140.1	-139.6	-140.5	-138.7	-138.3	-141.2	-141.7	0
0730	-138.4	-139.9	-140.5	-139.4	-140.6	-139.8	-140.9	-137.1	-139.8	-140.5	-141.5	-140.6	-136.9	-141.4	-141.0	0
0800	-139.3	-139.0	-140.1	-138.1	-140.5	-138.8	-140.3	-136.6	-139.2	-141.0	-140.7	-141.1	-135.4	-141.8	-141.1	0
0830	-139.4	-139.3	-141.3	-139.4	-140.3	-138.9	-140.3	-137.1	-140.0	-141.1	-140.0	-141.5	-138.3	-141.8	-141.6	- 0
0900	-139.6	-138.5	-141.1	-140.1	-139.5	-139.8	-140.0	-137.0	-140.6	-141.0	-141.0	-140.0	-138.9	-141.9	-141.8	
0930	-139.4	-140.1	-141.0	-140.1	-140.7	-140.6	-140.6	-137.5	-140.9	-140.7	-141.6	-139.5	-139.5	-143.1	-141.9	0
1000	-140.2	-139.4	-140.5	-139.2	-140.9	-140.1	-139.3	-137.3	-139.8	-141.4	-140.6	-141.2	-139.4	-143.7	-142.2	1
1030	-139.9	-140.0	-140.1	-137.2	-140.4	-139.2	-138.9	-136.8	-139.7	-141.1	-140.0	-141.2	-138.8	-143.8	-140.7	1
1100	-139.0	-139.8	-140.5	-137.4	-139.6	-139.0	-135.6	-137.5	-140.1	-141.2	-140.1	-140.9	-138.2	-142.0	-142.2	1
1130	-138.2	-140.0	-140.6	-137.4	-138.8	-139.1	-136.6	-137.9	-139.7	-140.3	-139.9	-140.0	-138.6	-141.2	-142.0	1
GMT	10/1	10/2	10/3	10/5	10/6	10/8	10/9	10/10	10/11	10/12	10/14	10/15	10/16	10/17	10/18	G
1200	-138.4	-140.1	-140.6		-139.3	-139.4	-138.1	-136.9	-139.8	-139.1	-138.6	-137.6	-138.9	-141.1	-141.7	12
1230	-138.6	-139.1	-139.2	_	-139.5	-138.6	-137.5	-137.0	-138.6	-140.0	-138.4	-137.7	-138.6	-141.6	-141.0	12
1300	-137.4	-138.6	-139.1		-138.6	-139.3	-133.0	-136.4	-137.8	-137.5	-137.0	-137.6	-138.4	-141.3	-140.7	13
1330	-137.7	-138.8	~137.7	_	-139.0	-140.1	-134.1	-136.6	-138.6	-138.9	-137.0		-138.6	-140.5	-141.3	13
1400	-137.1	-138.5	-140.1		-137.9	-139.6	-135.0	-136.7	-137.9	-138.6	-137.1	-137.5	-138.6	-139.4	-141.2	14
1430	-135.4	-138.6	-140.4		-137.8	-139.0	-136.1	-134.8	-137.0	-136.4	-136.3	-137.6	-139.9	-140.9	-141.2	14
1500	-137.1	-137.5	-139.1	_	-137.7	-135.3	-134.1	-136.4	-136.5	-138.3	-136.6	-137.7	-138.5	-140.8	-140.0	15
1530	-136.8	-137.7	-139.6	_	-137.7 10/7	-137.4	-131.1	-135.8	-136.1	-136.7	-136.4	-136.0	-137.5	-140.9	-139.6	15
1600	-136.0	-137.8	-139.4	_	-134.5	-136.8	-131.7	-136.1	-137.6	-134.0	-136.1	-136.4	-138.0	-140.6	-139.8	16
1630	-135.9	-138.2	-139.7	_	-136.5	-136.8	-128.6	-136.3	-135.6	-134.0	-135.5	-135.6	-138.4	-138.7	-140.0	16
1700	-135.3	-137.5	-138.7	_	-136.5	-136.2	-126.5	-136.5	-136.8	-133.5	-134.2	-134.2	-138.6	-139.3	-139.9	17
1730	-134.7	-137.1	-138.5	-136.3	-136.7	-135.8	-123.6	-136.1	-136.4	-133.6	-133.9	-135.3	-137.2	-138.3	-139.6	17
1800	-134.1	-137.7	-138.8	-135.2	-136.3	-136.5	-122.2	-135.7	-136.2	-133.8	-133.0	-135.6	-136.7	-139.1	-140.3	18
1830	-133.0	-137.6	-138.5	-135.1	-135.4	-135.7	-120.0	-136.2	-137.0		-132.4	-135.1	-137.2	-138.6	_	16
1900	-133.9	-137.3	-138.2	-134.9	-135.5	-135.5	-118.2	-135.6	-137.4		-133.4	-134.8	-137.6	-138.0		1
1930	-133.4	-136.5	-137.0	-134.1	-135.8	-135.6	-121.1	-136.0	-135.9		-133.1	-133.1	-137.5	-137.4		1
2000	-133.1	-135.8	-136.2	-134.2	-135.5		-128.4	-136.5	-135.7	_	-132.8		-137.4	-136.6	=	2
2030	-133.2	-135.9	-136.8	-134.3	-135.2	-137.2	-125.9	-136.4	-135.6	10/13	-131.9		-137.3	-137.1		2
2100	-134.0	-136.2	-135.5	-134.1	-134.7	-136.8	-126.5	-136.6	-135.7	-137.0	-132.6	-134.6	-137.0	-137.1		2
2130	-133.6	-137.1	-135.7	-133.6	-135.1	-135.8	-130.7	-136.4	-134,4	-137.0	-132.5	-134.1	-136.3	-135.4		2
2200	-133.9	-137.0	-136.3	-133.4	-135.5	-136.0	-131.0	-136.2	-135.7	-137.6	-133.5	-135.0	-136.2	-136.7		2
2230	-133.6	-138.2	-137.1	-134.5	-135.7	-137.2	-131.5	-136.6	-137.0	-138.0	-135.4	-136.0	-136.5	-139.3		2
2300	-134.5	-138.5	-138.2	-135.1	-135.8	-138.3	-132.2	-138.2	-138.8	-138.1	-135.6	-136.5	-137.0	-137.8		2
2330	-136.0	-138.7	-139.0	-136.3	-137.7	-138.4	-132.5	-139.2	-139.3	-139.6	-137.1	-136.3	-137.7	-139.6		2

1

ut 76 Hz Effective Noise Levels (dBH)

BEST AVAILABLE COPY

10/18	(MT	10/20	10/23	10/24	10/25	10/26	10/27	10/28	10/29	10/30	10/31				MONTHLY AVERAGE
140.2	0000	-139.0	-140.3	-140.4	~135.7	-139.5	-138.6	-139.3	-139.0	-139.7	-138.4				-138.4
	0030		-139.9	-141.0	-135.1	-140.2	-138.0	-140.3	-139.3	-139.4	-139.0				-138.6
1-1-1	0100		-139.5	-139.4	-136.6	-140.4	-138.4	-141.1	-140.5	-139.7	-139.4				-138.8
141.6	0130		-140.6	-139.5	-134.8	-138.1	-139.5	-141.2	-139.4	-140.8	-139.5				-139.0
141.5	0200			-140.2	-132.5	-139.3	-139.6	-140.7	-140.1	-141.0	-139.2				-139.2
141.0	0230		-140.9	-140.7	-132.3	-139.7	-139.5	-140.4	-140.9	-140.8	-139.1				-139.1
140.1			-141.1	-141.1	-132.2	-139.9	-138.9	-141.0	-141.2	-140.5	-140.5				-139.2
140.6			-140.1	-140.1	-135.1	-139.7	-138.4	-140.9	-141.0	-140.3	-140.7				-139.4
141.4	0330		-140.2	-140.1	-137.7	-138.1	-138.9	-140.3	-139.3	-141.9	-140.5				-139.5
141.8	0400		-139.6	-141.5	-134.9	-138.3	-139.0	-140.6	-140.0	-141.8	-140.3				-139.7
142.3	0430		-140.3		-137.2	-139.1	-139.5	-139.9	-140.6	-141.3	-139.7				-139.7
141.2	0500		-139.7	-141.4	-138.4	-139.4	-139.3	-140.5	-140.5	-140.5	-140.3				-139.8
141.5	0530		-139.8	-141.0		-139.5	-138.3	-140.8	-140.4	-139.8	-140.4				-139.9
141.5	0600	-140.8	-139.7	-140.6	-139.3		-139.4	-140.5	-139.7	-141.2	-140.7				-139.8
140.0	0630	-140.0	-139.3	-140.4	-139.9	-138.6		-140.9	-139.7	-141.4	-140.3				-139.9
141.7	0700	-141.3	-139.4	-141.2	-140.2	-138.5	-139.4	-140.9	-141.3	-141.1	-139.0				-140.0
141.0	0730	-143.9	-139.5	-141.5	-139.7	-139.6	-139.6	-140.8	-141.4	-141.4	-139.8				-140.0
141.1 141.6 141.8	0800	-143.3	-139.8	-142.4	-139.2	-139.3	-139.3				-140.0				-140.2
41.6	0830	-143.2	-140.7	-141.1	-140.8	-139.2	-138.6	-141.1	-141.4	-140.3					-140.3
141.8	0900	-141.8	-140.3	-140.9	-140.7	-139.2	-139.1	-141.6	-141.5	-141.7	-140.1				-140.7
141.9	0330	-142.4	-141.3	-143.0	-141.2	-138.8	-140.3	-141.9	-140.6	-142.5	-140.6				-140.8
142.2	1000	-143.8	-142.1	-143.3	-140.5	-140.4	-140.6	-141.2	-141.9	-142.8	-140.1				-140.4
1140.7	1030	-143.3	-142.2	-143.3	-139.2	-140.0	-141.1	-141.1	-141.7	-142.7	-140.4				-139.9
142.7	1100	-142.4	-140.6	-142.2	-138.8	-138.7	-139.6	-141.1	-141.0	-140.1	-140.7				-139.6
142.0	1130	-140.4	-140.9	-141.2	-138.6	-137.5	-139.7	-141.6	-140.8	-141.1	-140.2				MONTHLY
10/18	GMI	10/19	10/20	10/21	10/22	10/23	10/24	10/25	10/26	10/27	10/28	10/29	10/30	10/31	AVERAGE
141.7	1200		-140.9			-139.6	-141.4	-138.5	-137.0	-138.8	-141.3	-139.2	-140.9	-139.8	-139.4
4141.0	1230	-	-141.3	-133.7	-139.2	-139.3	-140.8	-138.3	-137.8	-139.9	-140.8	-139.7	-141.2	-138.7	-139.0
140.7	1300		-141.2	-133.8	-138.4	-138.1	-140.4	-137.6	-137.6	-139.7	-140.4	-139.6	-140.9	-138.5	-138.4
141.3	1330		-140.0	~134.2	-138.0	-137.6	-138.6	-137.9	-136.7		-140.3	-139.8	-139.2	-139.3	-138.3
-141.2	1400	-	-138.1	-134.9	-138.2	-137.3	-136.1	-138.0	-136.1		-139.3	-139.4	-139.1		-137.9
-141.2	1430		-137.0	-134.9	-138.6	-136.7	-136.8	-137.5	-135.7	-137.7	-138.9	-137.8	-139.5		-137.6
140.0	1500	-136.8	-136.9	~135.0	-138.6	-136.8	-137.2	-136.7	-136.0	-138.2	-138.5	-137.7	-139.0		-137.3
139.6	1530	-136.1	-138.8	~133.9	-138.6	-138.0	-137.1	-134.6	-135.7	-136.7	-137.3		-138.6		-137.1
-139.8	1600	-137.4	-138.9	-135.0	-138.2	-138.0	-137.6	-136.0	-135.2	-136.6	-138.0	-136.8	-136.8		-137.0
-140.0	1630	-136.7	-138.3	-134.9	-137.9	-137.6	-137.5	-136.0	-135.1	-136.9	-137.8	-136.1	-136.8		-136.8
-139.9	1700	-136.3	-138.1	-134.3	-136.2	-137.5	-137.5	-136.7	-134.6	-137.3	-137.3	-135.2	-137.5	-137.7	-136.6
-139.6	1730	-136.1	-138.7	-134.5	-136.1	-137.1	-137.7	-136.9	-134.7	-137.4		-135.3	-136.9	-136.3	-136.3
-140.3	1800	-136.3	-139.3	~136.6	-136.0	-137.4	-138.4	-136.6	-135.4	-137.4		-135.1	-136.5	-136.3	-136.5
	1830	-136.4	-139.2	~136.0	-136.7	-137.6	-138.0	-136.9	-135.7	-136.8	-138.4	-134.9	-135.0	-136.9	-136.3
	1900	-137.3	-138.3	-134.6	-138.7	-137.1	-136.5	-136.7	-136.1	-135.8	-135.6	-134.8	-135.0	-136.0	-136.1
	1930	-137.1	-137.9		-138.7	-137.7	-137.2	-136.7	-135.5	-136.7	-135.9	-133.9	-134.7	-136.0	-135.9
	2000	-136.4	-138.7		-138.4	-136.9	-137.8	-137.1	-135.6	-136.7	-135.6	-133.8	-134.7	-134.8	-135.8
	2030	-136.9	-137.9		-139.2	-136.6	-137.7	-135.9	-135.4	-136.6	-134.2	-134.3	-135.1	-134.5	-135.8
	2100	-137.1	-137.9		-140.0	-137.0	-136.2	-135.7	-135.5	-136.5	-134.0	-134.0	-134.2	-134.1	-135.7
	2130	-136.8	-136.8		-139.9	-137.1	-136.3	-137.0	-135.1	-136.6	-136.0	-135.0	-134.4	-134.1	-135.6
	2200	-137.1	-135.6		-139.9	-137.0	-136.8	-138.6	-135.5	-136.8	-136.7	-136.2	-135.5	-135.3	-136.1
_	2230	-137.0	-137.9		-138.9	-137.4	-137.6	-139.1	-135.8	-138.7	-137.4	-137.2	-136.1	-136.6	-136.7
		-138.6	-138.1	_	-139.6	-138.5	-136.1	-138.6	-138.3	-139.1	-137.5	-137.9	-138.2	-136.8	-137.5
		-137.7			-140.3		-134.4	-138.9	-138.6	-139.4	-138.5		-137.9	-137.7	

7

9/10 Reverse Blank

Table 4. November 1976 Connecticut 76 Hz Effective

GMT	11/1	11/2	11/3	11/4	11/5	11/6	11/7	11/8	11/9	11/18	11/19	11/20	11/21	11/22
	11/1	11/2	11/3	11/1	11/0	1110	11//	11/0	11/3	11/10	11/13	11/20	11/21	11/66
0000	120 1	100.1	-141.3	-141.5	-139.6	-137.5	-135.1	-141.1	120 0	-138.9	-141.7	-139.5	-140.3	-142.1
0000	-138.1	-140.1 -140.4	-141.5	-141.0	-139.6	-137.5	-134.7	-140.8	-139.0 -139.4	-139.2	-141.1	-139.0	-140.5	-142.0
0030	-138.9 -139.2	-140.0	=141.6	-140.8	-139.1	-138.2	-137.0	-140.9	-140.1	-140.1	-141.2	-139.2	-140.2	-141.6
0100	-139.2		-140.9	-141.3	-139.5	-139.0	-134.3	-140.3			-141.9		-140.6	-142.8
0130		-140.0							-139.7	-140.9		-139.6		300 - 100,000
0200	-139.8	-141.4	-141.0	-142.0	-139.7	-138.4	-132.2	-140.3	-140.5	-141.0	-141.8	-139.7	-139.9	-142.8
0300	-140.7	-141.8	-142.2	-142.1	-140.6	-139.1	-135.2	-141.4	-141.1	-140.8	-141.7	-139.4	-141.5	-142.7
	-140.3	-142.0	-140.7	-141.9	-139.2	-139.8	-138.0	-141.7	-141.2	-140.9	-140.7	-136.8	-141.2	-143.4
0330	-140.6	-141.0	-141.0	-140.9	-140.0	-139.9	-138.9	-140.9	-141.0	-14).0	-140.6	-137.8	-141.6	-143.6
0400	-139.3	-140.0	-140.5	-140.1	-140.6	-139.6	-138.7	-140.8	-140.7	-140.6	-140.0	-138.1	-141.7	-143.3
0430	-139.6	-140.6	-140.3	-141.0	-140.7	-138.7	-137.5	-140.2	-140.2	-141.1	-140.1	-138.2	-141.8	-143.7
05.00	-139.8	-140.1	-141.2	-141.4	-139.7	-139.2	-137.8	-140.8	-140.6	-140.3	-140.2	-137.3	-140.8	-143.3
	-139.8	-139.1	-139.7	-140.9	-138.6	-140.2	-138.7	-140.8	-141.0	-140.9	-140.2	-137.3	-141.7	-144.1
0600	-139.0	-139.0	-139.2	-140.8	-139.1	-139.9	-138.8	-140.5	-140.6	-140.5	-140.0	-137.5	-141.6	-143.7
0630	-138.6	-138.3	-138.7	-139.2	-139.8	-139.0	-139.1	-140.7	-140.4	-140.3	-140.0	-137.6	-141.3	-144.3
0700	-139.4	-138.4	-137.1	-139.8	-139.1	-139.5	-139.4	-139.7	-140.1	-140.1	-140.5	-137.5	-141.5	-144.4
0730 0800	-139.9	-139.6	-137.6	-139.8	-138.6	-139.0	-139.8	-139.7	-139.5	-140.1	-140.3	-138.0	-141.3	-144.6
	-139.3	-139.7	-138.7	-139.6	-138.2	-139.9	-140.8	-141.0	-140.6	-139.9	-140.4	-138.3	-140.9	-144.1
0830	-139.5	-140.7	-139.7	-139.8	-138.6	-139.8	-140.4	-140.9	-141.9	-140.2	-140.4	-138.8	-141.5	-143.7
0900	-139.1	-141.7	-140.7	-139.2	-139.8	-140.4	-139.2	-140.7	-142.0	-139.3	-140.0	-138.8	-141.7	-143.5
0930	-140.3	-140.5	-139.7	-138.9	-140.4	-141.0	-138.9	-139.9	-141.7	-141.3	-141.1	-139.7	-141.0	-143.3
1000	-141.1	-141.3	-139.9	-140.5	-141.0	-140.1	-137.9	-139.6	-142.0	-142.1	-141.1	-140.4	-141.1	-143.5
1030	-140.0	-141.6	-140.4	-140.6	-140.1	-140.3	-139.2	-140.4	-141.2	-142.3	-141.4	-140.4	-140.8	-143.6
1100	-140.0	-141.0	-140.0	-140.8	-138.7	-141.0	-139.5	-140.4	-141.5	-141.9	-140.7	-139.6	-141.3	-143.3
1130	-139.1	-140.9	-139.8	-140.2	-138.8	-140.4	-139.2	-140.2	-141.9	-141.8	-140.8	-138.8	-141.6	-142.6
1200	-138.8	-140.1	-139.1	-139.2	-139.1	-140.1	-139.1	-139.4	-142.1	-141.0	-139.8	-136.5	-140.2	-142.3
1230	-139.2	-139.9	-139.2	-139.0	-138.8	-139.8	-138.3	-139.0	-140.2	-141.0	-139.2	-137.9	-140.7	-141.7
1300 1330	-138.9	-139.5	-140.4	-140.4	-138.6	-139.0	-138.1	-139.3	-141.2	-140.7	-139.3	-137.1	-139.8	-139.6
	120.2		-139.8	-138.8	-137.7	-139.1	-138.4	-138.6	-141.0	-139.5	-140.2	-138.2	-139.0	-141.5
1400	-138.3		-139.6 -138.3	-139.6	-137.2 -137.4	-138.8 -137.7	-137.9	-139.0	-140.9	-139.9	-140.0	-137.3	-140.2	-141.4
1500	-137.8		-135.7	-139.0 -137.5		-137.4	-137.7	-138.1 -137.8	-141.0	-140.1	-139.8	-137.9	-140.4	-141.1
1530	-137.4				-137.0		-137.8	-137.8	-139.8	-140.0	-139.8	-138.2	-140.0	
1600	-137.9 -137.1		-136.4 -135.9	-136.0 -136.5	==	-137.1 -137.8	-137.3 -137.2	-136.4	-139.7 -138.6	-139.7 -139.7	-139.5 -139.6	-138.1	-140.1	-141.5
1630	-137.1		-136.3	-136.5		-137.5	-137.5	-136.9	-138.6	-139.3			-139.7	
1700	-135.7		-135.3	-138.3	-135.1	-136.8		-136.3			-139.1	-137.6	-139.7	-140.9
1730	-135.1		-135.3	-137.3	-135.1	-136.8	-137.8 -137.2	-136.7	-139.1 -138.5	-138.5 -138.4	-138.6	-137.6	-137.1	-140.3
1800	-135.7		-135.2	-137.7	-135.5	-135.4	-136.8	-135.4			-138.2	-135.8	-139.0	
1830	-135.8		-136.6	-138.4	-135.3	-135.0	-137.4	-136.0	-138.0 -137.9	-138.1	-137.8	-136.5	-139.0	-140.8
1900	-135.9		-136.5	-138.1	-135.2	-134.5	-137.5	-136.7		-137.6	-137.0	-135.7	-139.6	-141.2
1930	-135.9			-136.0					-136.8	-137.3	-136.5	-136.7	-139.7	-141.2
2000	-134.8		-135.5 -135.0	-135.4	-135.5 -135.4	-134.4 -133.5	-137.8 -137.7	-136.7 -135.9	-135.8	-136.8	-136.5	-135.4	-139.2	-140.7
2030	-135.4		-136.2	-136.3	-135.2	-133.3	-137.0	-135.3	-138.0	-137.3	-137.1	-136.9	-139.7	-140.9
	-134.9		-130.2	-135.8	-134.1	-132.5	137.8	-136.5	-138.2	-137.2	-136.7	-137.2	-139.5	-141.0
2100 2130	-134.3	-136.1		-136.8	-134.1	-134.3	-138.3	-136.5	-137.7	-137.1	-136.4	-137.5	-139.8	-141.6
2200	-136.0	-136.1	-138.0	-135.0	-135.4	-135.7	-139.0	-137.9	-137.4	-138.0	-137.0	-138.0	-140.1	-142.0
2230	-136.4	-139.1	-138.0	-136.8	-136.8	-136.7	-139.0	-137.9	-138.6 -138.9	-139.2 -140.2	-137.8 -138.3	-138.7 -138.6	-141.3 -141.9	-141.5 -141.6
2300	-137.9	-138.7	-138.9	-138.5	-137.4	-135.9	-138.9	-138.4	-138.9	-140.2	-139.6	-139.6	-141.9	-141.6
2330	-139.2	-139.6	-140.0	-139.2	-136.8	-135.2	-139.5	-138.8	-141.1	-140.8	-139.5	-140.6	-142.2	-142.6
2000	200.2	200.0	2.0.0	100.1	100.0	200.2	100.0	-100.0	-1-1.1	-140.0	-133.3	-140.0	-1-12.2	-142.0

ember 1976 Connecticut 76 Hz Effective Noise Levels (dBH)

BEST AVAILABLE COPY

												11.100	11.700	MONTHLY
11/9 .	11/18	11/19		11/21	11/22	11/23	11/24	11/25	11/76	11/27	11/28	11/29	11/30	AVERAGE
-139.0	-138.9	-141.7	-139.5	-140.3	-142.3	-142.7	-142.1	-140.5	-139.6	-142.6	-143.1	-141.5	-141.1	-140.3
-139.4	-139.7	-141.1	-139.0	-140.5	-142.0	-142.0	-142.5	-140.6	-139.4	-142.8	~143.0	-141.9	-141.8	-140.3
-190.1	-190.1	-191.7	-139.2	-140.2	-141.6	-141.5	-142.4	-140.9	-139.6	-142.7	-142.9	-142.6	-142.1	-140.5
-139.7	-140.9	-191.9	-1.19.6	-140.6	-142.8	-141.8	-141.4	-140.5	-140.5	-143.0	-143.1	-143.0	-142.4	-140.6
	-141.0	-141.P	-139.7	-139.9	-142.8	-142.0	-141.5	-140.3	-141.2	-143.0	-143.4	-142.0	-141.4	-140.6
-140.5		-141.7	-139.4	-141.5	-142.7	-192.1	-140.8	-140.5	-141.2	-142.8	-143.9	-141.9	-141.3	-141.0
-191.1	-140.8	-140.7	-136.8	-141.2	-143.4	-142.0	-140.5	-148.3	-191.3	-142.7	-142.9	-143.6	-140.9	-140.9
-141.7		-140.5	-137.8	-141.6	-143.6	-141.9	-140.9	-140.6	-141.0	-142.3	-142.8	-144.2	-140.6	-141.0
-141.0 -140.7	-140.6	-140.0	-120.1	-141.7	-143.3	-142.2	-140.7	-190.9	-140.8	-140.8	-142.1	- I44.0	-139.9	-140.7
		-190.1	-138.7	-141.8	-193.7	-142.4	-141.5	-140.7	-140.3	-141.4	-141.2	-143.2	-140.2	-140.6
-140.2 -140.6	-141.1 -140.3	-190.2	-137.3	-140.8	-143.3	-142.2	-141.7	-140.0	-140.3	-141.1	-140.3	-143.6	-139.7	-140.5
-141.0	-140.9	-140.2	-137.3	-141.7	-144.1	-141.8	-141.1	-140.9	-139.8	-140.5	-140.8	-142.6	-138.4	-140.3
-140.6	-140.5	-140.0	-137.5	-141.6	-143.7	-141.9	-141.3	-141.2	-139.8	-140.6	-141.0	-141.9	-138.6	-140.2
-140.4	-140.3	-140.0	-137.6	-141.3	-144.3	-142.0	-141.5	-141.7	-140.2	-140.2	-141.3	-141.2	-139.3	-140.1
-140.1	-140.1	-140.5	-137.5	-141.5	-144,4	-142.5	-141.7	-141.4	-140.2	-140.3	-140.5	-141.4	-138.5	-140.1
	-140.1	-140.3	-138.0	-141.3	-144.6	-142.7	-141.0	-141.6	-140.0	-140.0	-140.7	-141.8	-137.6	-100.1
1140 6	-139.9	-140.4	-138.3	-140.9	-144.1	-142.2	-142.0	-141.6	-139.9	-138.4	-139.8	-142.0	-137.9	=140.2
1 -141 9	-140.2	-140.4	-138.8	-141.5	-143.7	-142.1	-112.2	-141.9	-140.0	-139.4	-141.3	-142.5	-138.5	-140.5
-192 D	-139.3	-140.0	-138.8	-141.7	-143.5	-142.8	-143.1	-142.0	-140.2	-140.5	-141.8	-141.9	-139.3	-140.7
-191.7	-141.3	-141.1	-139.7	-141.0	-143.3	-142.7	-143.5	-140.9	-139.8	-140.9	-143.2	-141.1	-139.5	-140.8
-192 n	-142.1	-141.1	-140.4	-141.1	-143.5	-142.3	-143.7	-140.8	-140.9	-141.5	-143.7	-143.4	-139.8	-141.2
-141.2	-147.3	-141.4	-140.4	-140.8	-143.6	-142.5	-143.7	-140.0	-191.1	-141.3	-143.9	-143.0	-141.4	-141.3
-141.5	-141.9	-140.7	-139.6	-141.3	-143.3	-141.7	-143.5	-139.4	-140.8	-141.1	-143.2	-142.8	-141.3	-141.0
-139.5 -140.6 -141.9 -142.0 -141.7 -142.0 -141.2 -141.5 -141.9 -142.1	-141.8	-140.8	-138.8	-141.6	-142.6	-141.4	-143.5	-138.9	-141.0	-141.7	-143.8	-142.0	-141.0	-140.8
-142.1	-141.0	-139.8	-136.5	-140.2	-192.3	-140.5	-143.1	-138.4	-139.2	-141.5	-143.5	-140.5	-140.6	-140.3
-140.2	-141.0	-139.2	-137.9	-140.7	-141.7	-141.2	-142.1	-138.1	-139.5	-142.0	-143.4	-140.1	~140.8	-139.9
-141.2	+140.7	-139.3	-137.1	-139.8	-139.6	-140.7	-142.5	-139.3	-141.2	-141.5	-142.9	-140.4	-141.0	-139.9
-141.0	-139.5	-140.2	-138.2	-139.0	-141.5	-140.9	-142.1	-139.1	-140.9	-141.5	-143.2	-140.2	-141.1	-139.9
-140.9	-139.9	-140.0	-137.3	-140.2	-191.4	-141.0	-142.0	-138.7	-140.9	-142.4	-142.9	-140.3	-141.2	-139.9
-141.0	-140.1	-139.8	-137.9	-140.4	-141.1	-141.1	-141.1	-139.2	-140.9	-143.6	-142.9	-141.1	-141.6	-139.8
-139.8	-140.0	-139.8	-138.2	-140.0		-139.2	-141.3	+139.5	-140.9	-143.6	-141.1	-141.1	-141.7	-139.4
-139.7	-139.7	-139.5	-138.1	-140.1		-138.9	-141.3	-139.4	-140.8	-142.7	-142.2	-141.5	-141.8	-139.3
-138.6	-139.7	-139.6	-138,4	-139.7	-141.5	-139.4	-141.0	-139.4	-191.0	-141.0	-140.3	-141.7	-141.7	-139.1
-138.6	-139.3	-139.1	-137.6	-139.7	-140.9	-138.8	-141.0	-138.0	-140.3	-140.5	-140.9	-140.8	-142.8	-138.8 -138.6
-139.1	~138.5	-138.6	-137.6	-137.1	-140.3	-140.8	-139.9	-137.7	-139.8	-141.6	-141.9	-140.7	-142.9 -142.6	-138.5
-138.5	~138.4	-138.2	-135.8	-139.0	-140.8	-141.2	-141.1	-139.1	-140.3	-139.2	-141.1	-141.1	-142.0	-138.3
-138.0	~138.1	-137.8	~136.5	-139.0	-140.8	-140.9	-140.2	-139.6	-139.B	-141.5	-140.8		-141.0	-138.2
-137.9	~137.6	-137.0	~135.7	-139.6	-141.2	-140.0	-140.7	-139.9	-140.6	-141.6	-141.2	200 0	-142.5	-138.4
-136.8	~137.3	-136.5	~136.7	-139.7	-141.2	-141.0	-140.7	-139.5	-140.5	-139.3	-141.2	-140.9	-142.2	-138.0
-135.8	~136.8	-136.5	-135.4	-139.2	-140.7	-141.7	-140.4	-139.3	-140.0	-138.8	-139.3	-141.2	-141.8	-138.1
-138.0	~137.3	-137.1	-136.9	-139.7	-140.9	-141.8	-140.3	-139.1	-139.8	-140.4	-139.7	-141.2	-141.2	-138.2
-138.2	~137.2	-136.7	~137.2	-139.5	-141.0	-142.8	-140.1	-138.6	-139.6	-141.7	-140.2	-141.0	-140.7	-138.1
-137.7	~137.1	-136.4	~137.5	-139.8	-141.6	-142.3	-138.5	-138.6	-140.5	-141.1	-140.7	-140.0	-141.3	-138.4
-137.4	-138.0	-137.0	-138.0	-140.1	-142.0	-142.6	-138.7	-138.8	-140.3	-101.1	-140.7	-141.0	-142.6	-139.0
-138.6	-139.2	-137.8	-138.7	-141.3	-141.5	-142.4	-139.0	-139.6	-140.8	-141.6	-141.5	-141.8	-142.7	-139.6
-138.9	-140.2	-138.3	-138.6	-191.9	-141.6	-142.8	-139.5	-140.7	-191.2	-142.6	-141.8	-140.8 -141.6	-143.1	-140.0
-139.8	-140.6	-139.0	-139.6	-140.9	-142.4	-142.4	-139.6	-140.6	-142.3	-142.9	-142.0	-142.4	-143.6	-140.4
-141.1	-140.8	-139.5	-140.6	-142.2	-142.6	-142.4	-140.2	-140.9	-142.2	-143.6	-141.3	-1		

11/12 Reverse Blank preamplifier and associated circuitry) was a strong source of 40 and 71 Hz interference (i.e., $60~\text{Hz} \pm 11~\text{Hz}$). Thus, during that period the effective noise measurements were contaminated by industrial noise. The measured (contaminated) effective noise from late November to mid-January was -138 to -140 dBH, with little or no diurnal variation.

However, from 17 to 27 January 1977, the 49 and 71 Hz interference levels decreased considerably. The 76 average effective noise levels measured during this period versus GMT are plotted in figure 11. As expected, the minimum levels occurred around local sunrise. However, the maximum levels occurred during most of the total daytime period (i.e., from 1300 to 2200, N $_{\rm eff}$ $^{-}$ -144.5 \pm 0.5 dBH). Furthermore, the average diurnal variation was only 2.5 dB (-144 to -146.5 dBH) as compared with the 5 dB measured during the fall of 1976 (see figure 10).

DISCUSSION

The median level of 76 Hz effective noise level measured in Greece (which is about the same latitude as Connecticut) and Saipan (which is at a lower latitude) during 10 days in May 1972 was ~ -142 dBH. Referring to figure 10, we see that the median level of $N_{\rm eff}$ measured in Connecticut during the fall of 1976 was ~ -139 dBH. Previous measurements of $N_{\rm O}$ in Malta and Guam² indicated that the median level of $N_{\rm O}$ was ~ 3 dB lower in the spring than in the fall. Recent measurements in Connecticut indicate that $N_{\rm eff}$ is also ~ 3 dB lower in the spring than in the fall. Thus, it appears that the fall Connecticut $N_{\rm eff}$ measurements are in good agreement with the spring Saipan and Greece measurements.

The median level of $N_{\mbox{eff}}$ measured in Connecticut during 16 days in August was ~ -134 dBH (see figure 1), which is 5 dB higher than the median level measured in the fall. This is consistent with the 1975 data taken in Norway by Davis and Meyers. Their results indicate that the summertime effective noise was 6 to 10 dB higher than at other times of the year.

During 11 days in January 1977, the (possibly contaminated) median level of the Connecticut N $_{\rm eff}$ was \sim -145 dBH, which is \sim 11 dB lower than the median level of N $_{\rm eff}$ measured during the summer. This is also consistent with the Davis and Meyer Norway results, 4 where the difference between the summer and winter N $_{\rm eff}$ levels was \sim 10 dB.

As an example of the latitude dependence of ELF effective noise, the difference between the median levels of effective noise measured in Connecticut (midlatitude) and Norway (northern latitude) was 5 to 6 dB in both the summer and winter and approximately 10 dE in the fall.

CONCLUSIONS

Since August 1976, 76 Hz effective noise measurements have been taken in Connecticut. The ELF nonlinear processing receiver, located in New London, Connecticut, is connected to the receiving loop antenna, located at Fishers Island, New York, via a microwave link.

The median level of the measured effective noise was ~ -134 dBH during the summer, ~ -139 dBH in the fall, and ~ -145 dBH in the winter. The average

diurnal variation was 3 to 6 dB, although diurnal variations of 13 to 23 dB were observed on three separate occasions. The minimum values of $N_{\mbox{eff}}$ were measured around local sunrise, and the maximum values were measured 1 to 2 hours before local sunset.

The highest levels of $N_{\mbox{eff}}$ measured were -118 dBH (on 9 October) and -124 to -126 dBH (on 15 July and 13-15 and 26 August); the lowest level of $N_{\mbox{eff}}$ measured was -148 dBH (on 25 January 1977).

Based on the limited amount of $N_{\mbox{eff}}$ measurements taken in Connecticut to date, it appears that there are definite midlatitude seasonal and diurnal variations in ELF effective noise levels. Comparing the Connecticut data with data taken in Norway indicates that FLF effective noise is also latitude dependent.

REFERENCES

- 1. J. E. Evans and A. S. Griffiths, "Design of a Sanguine Noise Processor Based upon Worldwide Extremely Low Frequency (ELF) Recordings," IEEE Transactions on Communications, vol. COM-22, no. 4, 1974, pp. 528-539.
- 2. L. H. Ginsberg, "Extremely Low Frequency (ELF) Atmospheric Noise Level Statistics for Project Sanguine," <u>IEEE Transactions on Communications</u>, vol. COM-22, no. 4, 1974, pp. 555-561.
- 3. A. S. Criffiths, "Measurements of ELF Noise Processing," MIT Lincoln Laboratory Technical Note 1975-33, 2 September 1975.
- 4. J. R. Davis and W. D. Meyers, "ELF Atmospheric Noise Excision by Wideband Clipping," Radio Science, vol. 11, no. 12, 1976, pp. 991-999.

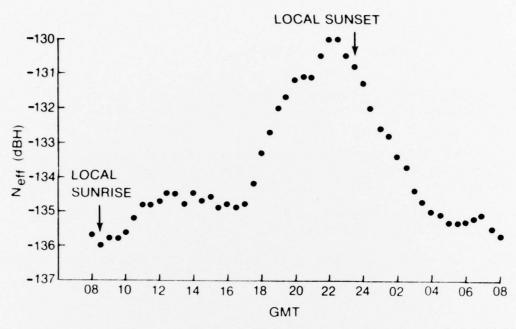


Figure 1. August 1976 Connecticut 76 Hz Average Effective Noise Levels Versus GMT

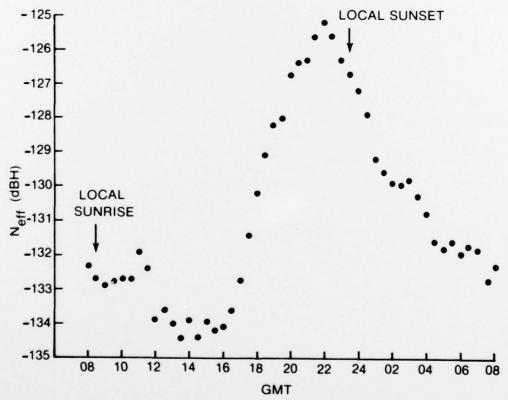


Figure 2. Average of Four Highest August 1976 Connecticut 76 Hz Effective Noise Days Versus GMT

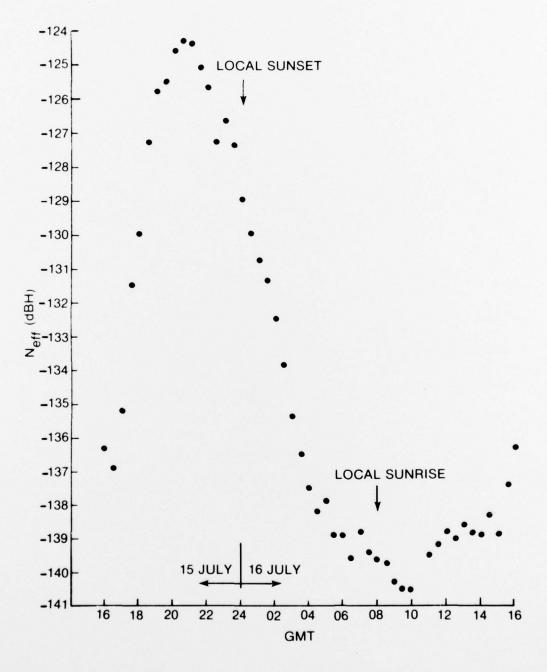


Figure 3. 15-16 July 1976 Connecticut 76 Hz Effective Noise Levels Versus GMT

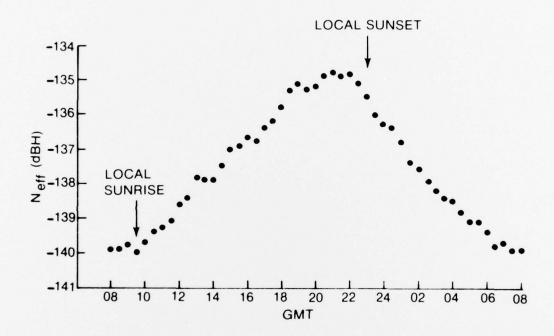


Figure 4. September 1976 Connecticut 76 Hz Average Effective Noise Levels Versus CMT

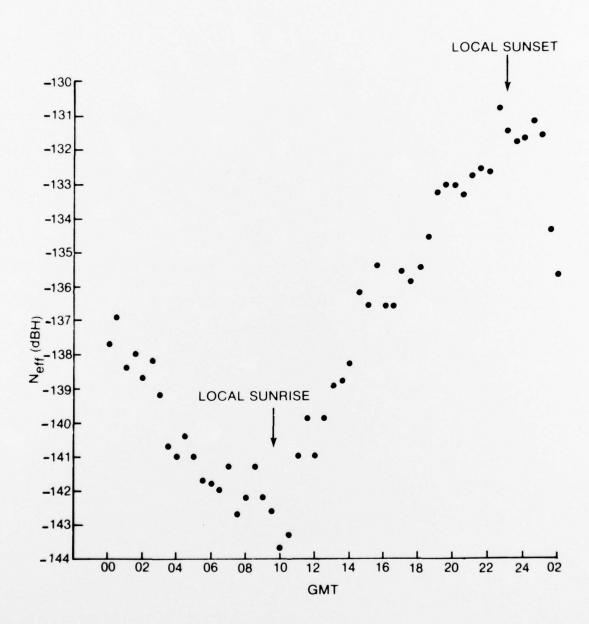


Figure 5. 26 September 1976 Connecticut 76 Hz Effective Noise Levels Versus GMT

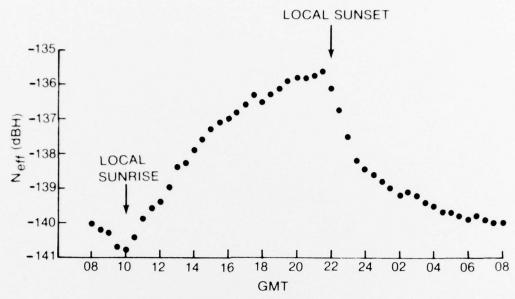
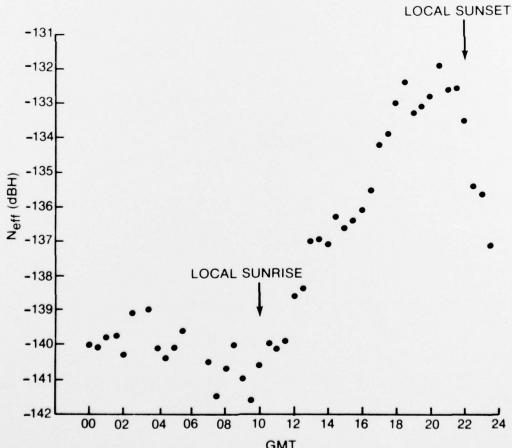


Figure 6. October 1976 Connecticut 76 Hz Average Effective Noise Levels Versus CMT



GMT
Figure 7. 14 October 1976 Connecticut 76 Hz Effective Noise Levels
Versus GMT

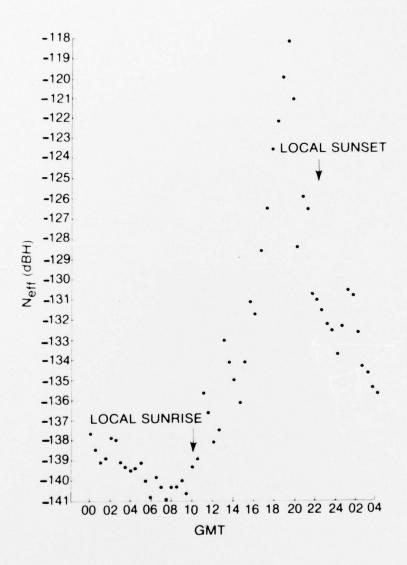


Figure 8. 9-10 October 1976 Connecticut 76 Hz Effective Noise Levels Versus GMT

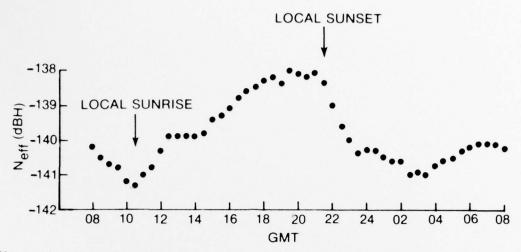


Figure 9. November 1976 Connecticut 76 Ez Average Effective Noise Levels Versus GMT

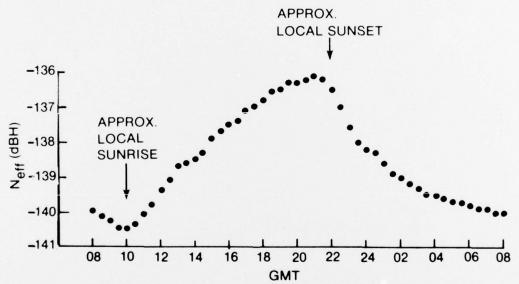


Figure 10. Fall 1976 Connecticut 76 Hz Average Effective Noise Levels Versus CMT

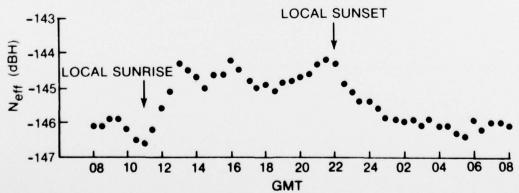


Figure 11. 17-27 January 1977 Connecticut 76 Hz Average Effective Noise Levels Versus GMT

INITIAL DISTRIBUTION LIST

ONR, Code 427, 485, 412-8, 480, 410, Earth Sciences
Division (T. Quinn)) ONR Branch Office, Chicago (F. L. Dowling) NRL, (J. Davis, W. Meyers, R. Dinger, F. Kelly), Code 6451
NRL, (J. Davis, W. Meyers, R. Dinger, F. Kelly), Code 6451 (D. Forester), 6454 (J. Clement, E. Compy, P. Lubitz, J. Schelleng) NAVELECSYSCOMHQ, Code 03, PME-117, -117-21, -117-213, -117-213A, -117-215 NELC, (R. Moler, H. Hughes, R. Pappert, Code 3300) NAVMAT, Code PM2-00 (RADM J. Metzel, Jr.), PM2-001 (J. Crone) NAVSEASYSCOMHQ, Code SEA-03424 (W. Welsh), -0227 (J. Fox), -03C, -034, -06H, -660C, -660D, PMS-396 DTNSRDC/A, Code 2782 (W. Andahazy, L. Dadin, D. Everstine, B. Hood, D. Nixon, D. Peoples, T. Shaw, F. Walker), 2732 (F. Baker, D. Fairhead), 2813 (E. Bieberich), 278 (H. Boroson), 2733 (P. Field, D. Rockwell), 0700 (R. Robinson) DTNSRDC/C, Code 1548 (R. Knutson), 1102.2 (J. Stinson)
NRL, (J. Davis, W. Meyers, R. Dinger, F. Kelly), Code 6451 (D. Forester), 6454 (J. Clement, E. Compy, P. Lubitz, J. Schelleng) NAVELECSYSCOMHQ, Code 03, PME-117, -117-21, -117-213, -117-213A, -117-215 NELC, (R. Moler, H. Hughes, R. Pappert, Code 3300) NAVMAT, Code PM2-00 (RADM J. Metzel, Jr.), PM2-001 (J. Crone) NAVSEASYSCOMHQ, Code SEA-03424 (W. Welsh), -0227 (J. Fox), -03C, -034, -06H, -660C, -660D, PMS-396 DTNSRDC/A, Code 2782 (W. Andahazy, L. Dadin, D. Everstine, B. Hood, D. Nixon, D. Peoples, T. Shaw, F. Walker), 2732 (F. Baker, D. Fairhead), 2813 (E. Bieberich), 278 (H. Boroson), 2733 (P. Field, D. Rockwell), 0700 (R. Robinson) DTNSRDC/C, Code 1548 (R. Knutson), 1102.2 (J. Stinson)
(D. Forester), 6454 (J. Clement, E. Compy, P. Lubitz, J. Schelleng) NAVELECSYSCOMHQ, Code 03, PME-117, -117-21, -117-213, -117-213A, -117-215 NELC, (R. Moler, H. Hughes, R. Pappert, Code 3300) NAVMAT, Code PM2-00 (RADM J. Metzel, Jr.), PM2-001 (J. Crone) NAVSEASYSCOMHQ, Code SEA-03424 (W. Welsh), -0227 (J. Fox), -03C, -034, -06H, -660C, -660D, PMS-396 DTNSRDC/A, Code 2782 (W. Andahazy, L. Dadin, D. Everstine, B. Hood, D. Nixon, D. Peoples, T. Shaw, F. Walker), 2732 (F. Baker, D. Fairhead), 2813 (E. Bieberich), 278 (H. Boroson), 2733 (P. Field, D. Rockwell), 0700 (R. Robinson) DTNSRDC/C, Code 1548 (R. Knutson), 1102.2 (J. Stinson)
NAVELECSYSCOMHQ, Code 03, PME-117, -117-21, -117-213, -117-213A, -117-215 6 NELC, (R. Moler, H. Hughes, R. Pappert, Code 3300) 4 NAVMAT, Code PM2-00 (RADM J. Metzel, Jr.), PM2-001 (J. Crone) 2 NAVSEASYSCOMHQ, Code SEA-03424 (W. Welsh), -0227 (J. Fox), -03C, -034, -06H, -660C, -660D, PMS-396 8 DTNSRDC/A, Code 2782 (W. Andahazy, L. Dadin, D. Everstine, B. Hood, D. Nixon, D. Peoples, T. Shaw, F. Walker), 2732 (F. Baker, D. Fairhead), 2813 (E. Bieberich), 278 (H. Boroson), 2733 (P. Field, D. Rockwell), 0700 (R. Robinson) 15 DTNSRDC/C, Code 1548 (R. Knutson), 1102.2 (J. Stinson) 2
-117-213A, -117-215 NELC, (R. Moler, H. Hughes, R. Pappert, Code 3300) NAVMAT, Code PM2-00 (RADM J. Metzel, Jr.), PM2-001 (J. Crone) NAVSEASYSCOMHQ, Code SEA-03424 (W. Welsh), -0227 (J. Fox), -03C, -034, -06H, -660C, -660D, PMS-396 DTNSRDC/A, Code 2782 (W. Andahazy, L. Dadin, D. Everstine, B. Hood, D. Nixon, D. Peoples, T. Shaw, F. Walker), 2732 (F. Baker, D. Fairhead), 2813 (E. Bieberich), 278 (H. Boroson), 2733 (P. Field, D. Rockwell), 0700 (R. Robinson) DTNSRDC/C, Code 1548 (R. Knutson), 1102.2 (J. Stinson)
NELC, (R. Moler, H. Hughes, R. Pappert, Code 3300) NAVMAT, Code PM2-00 (RADM J. Metzel, Jr.), PM2-001 (J. Crone) NAVSEASYSCOMHQ, Code SEA-03424 (W. Welsh), -0227 (J. Fox), -03C, -034, -06H, -660C, -660D, PMS-396 DTNSRDC/A, Code 2782 (W. Andahazy, L. Dadin, D. Everstine, B. Hood, D. Nixon, D. Peoples, T. Shaw, F. Walker), 2732 (F. Baker, D. Fairhead), 2813 (E. Bieberich), 278 (H. Boroson), 2733 (P. Field, D. Rockwell), 0700 (R. Robinson) DTNSRDC/C, Code 1548 (R. Knutson), 1102.2 (J. Stinson)
NAVMAT, Code PM2-00 (RADM J. Metzel, Jr.), PM2-001 (J. Crone) NAVSEASYSCOMHQ, Code SEA-03424 (W. Welsh), -0227 (J. Fox), -03C, -034, -06H, -660C, -660D, PMS-396 DTNSRDC/A, Code 2782 (W. Andahazy, L. Dadin, D. Everstine, B. Hood, D. Nixon, D. Peoples, T. Shaw, F. Walker), 2732 (F. Baker, D. Fairhead), 2813 (E. Bieberich), 278 (H. Boroson), 2733 (P. Field, D. Rockwell), 0700 (R. Robinson) DTNSRDC/C, Code 1548 (R. Knutson), 1102.2 (J. Stinson)
(J. Crone) NAVSEASYSCOMHQ, Code SEA-03424 (W. Welsh), -0227 (J. Fox), -03C, -034, -06H, -660C, -660D, PMS-396 DTNSRDC/A, Code 2782 (W. Andahazy, L. Dadin, D. Everstine, B. Hood, D. Nixon, D. Peoples, T. Shaw, F. Walker), 2732 (F. Baker, D. Fairhead), 2813 (E. Bieberich), 278 (H. Boroson), 2733 (P. Field, D. Rockwell), 0700 (R. Robinson) DTNSRDC/C, Code 1548 (R. Knutson), 1102.2 (J. Stinson)
NAVSEASYSCOMHQ, Code SEA-03424 (W. Welsh), -0227 (J. Fox), -03C, -034, -06H, -660C, -660D, PMS-396 8 DTNSRDC/A, Code 2782 (W. Andahazy, L. Dadin, D. Everstine, B. Hood, D. Nixon, D. Peoples, T. Shaw, F. Walker), 2732 (F. Baker, D. Fairhead), 2813 (E. Bieberich), 278 (H. Boroson), 2733 (P. Field, D. Rockwell), 0700 (R. Robinson) 15 DTNSRDC/C, Code 1548 (R. Knutson), 1102.2 (J. Stinson) 2
-03C, -034, -06H, -660C, -660D, PMS-396 8 DTNSRDC/A, Code 2782 (W. Andahazy, L. Dadin, D. Everstine, B. Hood, D. Nixon, D. Peoples, T. Shaw, F. Walker), 2732 (F. Baker, D. Fairhead), 2813 (E. Bieberich), 278 (H. Boroson), 2733 (P. Field, D. Rockwell), 0700 (R. Robinson) 15 DTNSRDC/C, Code 1548 (R. Knutson), 1102.2 (J. Stinson) 2
DTNSRDC/A, Code 2782 (W. Andahazy, L. Dadin, D. Everstine, B. Hood, D. Nixon, D. Peoples, T. Shaw, F. Walker), 2732 (F. Baker, D. Fairhead), 2813 (E. Bieberich), 278 (H. Boroson), 2733 (P. Field, D. Rockwell), 0700 (R. Robinson) DTNSRDC/C, Code 1548 (R. Knutson), 1102.2 (J. Stinson)
B. Hood, D. Nixon, D. Peoples, T. Shaw, F. Walker), 2732 (F. Baker, D. Fairhead), 2813 (E. Bieberich), 278 (H. Boroson), 2733 (P. Field, D. Rockwell), 0700 (R. Robinson) 15 DTNSRDC/C, Code 1548 (R. Knutson), 1102.2 (J. Stinson) 2
2732 (F. Baker, D. Fairhead), 2813 (E. Bieberich), 278 (H. Boroson), 2733 (P. Field, D. Rockwell), 0700 (R. Robinson) 15 DTNSRDC/C, Code 1548 (R. Knutson), 1102.2 (J. Stinson) 2
278 (H. Boroson), 2733 (P. Field, D. Rockwell), 0700 (R. Robinson) 15 DTNSRDC/C, Code 1548 (R. Knutson), 1102.2 (J. Stinson) 2
0700 (R. Robinson) 15 DTNSRDC/C, Code 1548 (R. Knutson), 1102.2 (J. Stinson) 2
DTNSRDC/C, Code 1548 (R. Knutson), 1102.2 (J. Stinson) 2
NAVOURENEAUTY LOGO WE-U4 IN STOLL II NORTON 1 1/
(K. Bishop, M. Lackey, Jr., W. Menzel, J. Miller,
E. Peizer, R. Stabnow, G. Stimak, J. Whelan), WR-43
(R. Brown, J. Cunningham, Jr., M. Kraichman, G. Usher) 14
NAVCOASTSYSLAB, Code 721 (C. Stewart), 773 (K. Allen),
792 (M, Wynn, W. Wynn) 4
NAVSEC, Code 6157 B (C. Butler, G. Kahler, D. Muegge) 3
NAVFACENGSYSCOM, Code FPO-1C (W. Sherwood), -1C7
(R. McIntyre, A. Sutherland) 3
NAVAIR, Code AIR-0632 B (L. Goertzen)
NAVAIRDEVCEN, Code 2022 (J. Duke, R. Gasser, E. Greeley,
A. Ochadlick, L. Ott, W. Payton, W. Schmidt) 7
NAVSHIPYD PTSMH, Code 280 (B. Murdock)
AFWTF, Code O1A (CDR W. Danner), 32 (LT R. Elston), 412
(P. Burton, R. Kirkpatrick) 4
NISC, Code 20 (G. Batts), 43 (J. Erdmann), OW17 (M. Koontz) 3
NOSC, Code 407 (C. Ramstedt)
NAVPGSCOL, Code 06 (R. Fossum)
U. S. Naval Academy, Anna. (C. Schneider)
CNO, Code OP-02, 03EG, -090, -23, -902, 941, -942U, 201, -953, -954, -96
-953, -954, -96 11 CNM, Code MAT-00, -03L, -0302, -034, -03T (CAPT Walker).
ASW-23 6
SUBASE LANT 1

Addressee	No. of Copies
NAVSUBSUPFACNION NAVWPNSCEN NAVSUBTRACENPAC CIVENGRIAB NAVSUBSCOL NAVWARCOL DDC, Alexandria	1 1 1 1 1 1 12
Engineering Societies Library United Engineering Center 345 East 47th St. New York, NY 10017	1
GTE Sylvania (G. Pucillo, D. Esten, R. Warshamer, D. Boots, R. Row) Needham, MA 02194	5
Lockheed (J. Reagan, W. Imhof, T. Larsen) Palo Alto, CA 94302	3
Lawrence Livermore Labs (J. Lytle, E. Miller) Livermore, CA 94550	2
Ratheon Co. (J. de Bettencourt) Norwood, MA 02062	1
Univ. of Nebraska Dept. of EE (E. Bahar) Lincoln, NB 68508	1
NOAA (D. Barrick, R. Fitzgerrell, D. Grubb, J. Wait (ERL)) U.S. Dept. of Commerce Boulder, CO 80302	4
Newmont Exploration Ltd. (A. Brant) Danbury, CT 06810	1

Addressee	No. of Copies
IITRI (J. Bridges) Chicago, IL 60068	1
Stanford Univ. Dept. of EE (F. Crawford) Stanford, CA 94305	1
Stanford Univ. P.O. Box 7457 (J. Wikswo) Menlo Park, CA 94025	1
Univ. of Colorado Dept. of EE (D. Chang) Boulder, CO 80302	1
SRI (L. Dolphin, Jr., A. Fraser-Smith, J. Chown, R. Honey, M. Morgan) Menlo Park, CA 94025	5
Air Force Cambridge Research Lab (R. Fante) Bedford, MA 01730	1
USGS - Federal Centre Regional Geophysics Branch (F. Frischknecht) Denver, CO 80225	1
Colorado School of Mines Geophysics Dept. (R. Geyer, G. Keller) Golden, CO 80401	2
Univ. of Arizona Dept. of Mining & Geological Engineering (D. Hastings) Tuscon, AZ 85721	1
Univ. of Michigan Radiation Lab (R. Hiatt) Ann Arbor, MI 48105	1

Addressee	No. of Copies
U. S. Army Cold Regions Research & Eng. Lab (P. Hoekstra) Hanover, NH 03755	1
Univ. of Washington Dept. of EE (A. Ishimaru) Seattle, WA 98105	1
Univ. of Wisconsin Dept. of EE (R. King) Madison, WI 53706	1
Univ. of Wyoming Dept. of EE (J. Lindsay, Jr.) Laramie, WY 82070	1
Univ. of Arizona College of Earth Sciences (L. Lepley) Tucson, AZ 85719	1
Univ. of Illinois Dept. of EE (R. Mittra) Urbana, IL 61801	1
Univ. of Kansas (R. Moore) Lawrence, KS 66044	1
Washington State Univ. Dept. of EE (R. Olsen) Pullman, WA 99163	1
Institute for Telecommunication Services U.S. Dept. of Commerce (R. Ott) Boulder, CO 80302	1
North Carolina State Univ. Dept. of EE (R. Rhodes) Raleigh, NC 27607	1

Addressee	No. of Copies
Ohio State Univ. Dept. of EE (J. Richmond) Columbus, OH 43212	1
MIT Lincoln Laboratory (J. Ruze, D. White, J. Evans, A. Griffiths, L. Ricardi) Lexington, MA 02137	5
Univ. of Utah Dept. of Geological & Geophysical Sciences (S. Ward) Salt Lake City, UT 84112	1
Purdue Univ. School of EE (W. Weeks) Lafayette, IN 47907	1
Nat'l Oceanographic & Atmospheric Admin. Wave Propagation Lab (G. Little) Boulder, CO 80302	1
Univ. of Pennsylvania Moore School of EE D2 (R. Showers) Philadelphia, PA 19174	1
Dynatrend Incorporated (F. Ostherr, L. Parente) Burlington, MA 01803	2
Dynatrend Incorporated/DC (E. Mansfield) Arlington, VA 22209	1
Cadcom Incorporated (D. Brake, W. Hicks, F. Klappenberger, N. Nicholas) Annapolis, MD 21401	4
Electric Boat Division (R. Clark, L. Conklin, H. Hemond, G. McCue, D. Odryna) Groton, CT 06340	5

Addressee	No. of Copies
Science Application Incorporated (J. Czika)	
McLean, VA 22101	1
JHU/APL (W. Chambers, P. Gueschel, L. Hart, H. Ko)	
Silver Spring, MD 20910	4